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CONTENTS AND SUBJECT INDEX

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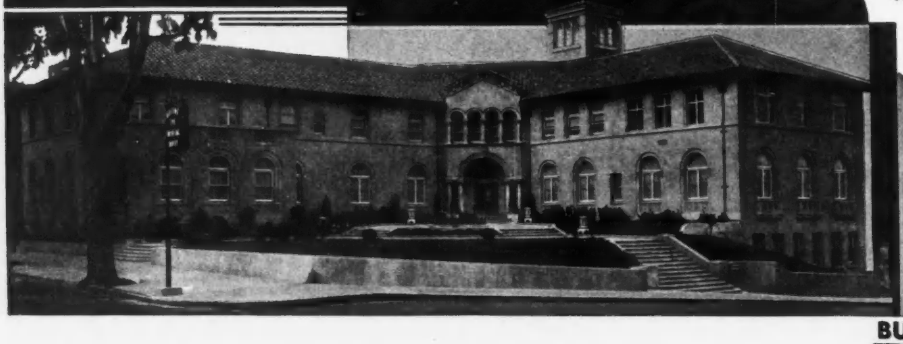

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CALIFORNIA AND WESTERN MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA AND NEVADA MEDICAL ASSOCIATIONS

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California and Western Medicine

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EDITOR . . . . . GEORGE H. KRESS

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Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its office requesting a copy of this leaflet.

DEPARTMENT INDEX

(Itemized Index of Articles is printed on Front Cover)

EDITORIALS†

ASSEMBLY BILL 246—CHAPTER 386: THE NONPROFIT HOSPITAL SERVICE BILL

Text of This Law Was Printed in the August Issue: Should Be Read.—The text of this important California statute, which became operative at midnight of September 14, 1935, was printed in full on page 175 of the August issue. Members of the California Medical Association who have not taken the time to read and reflect upon its nature and scope, particularly in relation to its possible effects upon private medical practice, are again urged to do so. The officers of the Association have given earnest thought to the measure, but the path along which to proceed, in order properly to safeguard the interests of scientific and organized medicine, is no more easy to find for officers than for the members at large. Therefore, at an early meeting of each component county society, the new law should be analyzed and discussed, either by a committee to which it has been submitted for study, or by one or more members who are sufficiently interested to be willing to open a discussion on the new statute's merits and demerits. The officers of the State Association will welcome reports from all component county units; and if such are received, the Council of the Association will be in better position to carry out the members' wishes. Otherwise, county societies must share in the blame, if later events show that mistakes in procedure have been made.

* * *

Recent Council Meeting Was a Two-Day Session.—Because of the importance of this and several other matters which had places on the docket, the last meeting of the California Medical Association Council was a two-, instead of a one-day session. The meeting, the minutes of which are printed on page 302 of this issue, was held on September 7 and 8, in the headquarters building of the Los Angeles County Medical Association; and it will be noted that members of the Council were thus willing to give two days to a consideration of problems related to the interests of the members of the Association. Reciprocally, members of the Association should now be dis-

† Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

posed to give a far lesser time period to deliberation as to their personal interests involved in this law, and it is hoped, therefore, that they will so devote the time required to at least read Assembly Bill No. 246 and the comments thereon.

We have stated, in previous issues, that some of the text of this new legislative enactment was not as explicit as might be desired. This deficiency came about, in part, because certain amendments proposed by representatives of the Association failed to reach Sacramento, owing to delay in the mails, for what seemed, at the time, to be the last meeting of the reference committee having the bill in charge; and in order not to jeopardize its chances in the last days of the legislative session, and because several county societies wished for the passage of this type of bill, the proposed law was permitted to pass out of the committee to the floor for final vote, lacking certain desirable amendments.

* * *

The Definition of "Hospital Care."—Without going into a detailed discussion of the Act which went into force on September 15, 1935, we shall here refer to and comment upon two excerpts, which indicate some of the problems still to be solved before the new law can be put into satisfactory operation.

The first quotation will be the four-line paragraph on "Hospital care," having the caption, "Section 1a," and reading as follows:

"Sec. 1a. 'Hospital care,' as used in this Act, may include any or all of the following services: maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep."

* * *

The Place of Clinical Laboratory and X-ray Service.—Referring to the paragraph quoted above, it may be stated that "clinical laboratory service" and "x-ray service," each of which, in recent years, has been part and parcel of the institutional activities of many hospitals in California and other states, are not mentioned in Section 1a of Assembly Bill No. 246.

Owing to that fact, and because the California State Board of Health, by the terms of the Act, is required to furnish a statement "certifying that it [the corporation operating a nonprofit hospital service] is complying with the standards required by the State Department of Public Health," the president of that board, Dr. Howard Morrow of San Francisco, thought it desirable to secure an opinion from the Attorney-General of California on certain points.

* * *

The Opinion of the State's Attorney-General Must Be Followed.—Because the Attorney-General's opinion is that which state boards and officials must observe, until contrary opinions are expressed by the courts or the Attorney-General's office, it may be in order to refer to a letter received by President Morrow of the State Board of Health from Deputy Attorney-General Lionel Browne.

A perusal of the opinion which was rendered will indicate at once some of the legal intricacies which arise when this type of legislation, no matter how well-meant or well-written, is placed on the statute books of a commonwealth.

* * *

Deputy Attorney-General Browne's Opinion.—The point of view of Deputy Attorney-General Browne (counsel for the California State Board of Health and the California State Board of Medical Examiners*) is of such importance that we take the liberty of quoting it in full:

STATE OF CALIFORNIA
LEGAL DEPARTMENT

San Francisco,
September 4, 1935.

Department of Public Health,
312 State Building,
San Francisco, California.

Attention: Howard Morrow, M. D.,
President, Board of Public Health.

Gentlemen:

In your communication of August 30, you refer to Chapter 386, Statutes of 1935, being "An Act for the regulation and control of corporations organized for the purpose of operating nonprofit hospital service plans." You point out that Section 1 provides what corporations may provide hospital care, the latter term being defined in Section 1a as follows:

"'Hospital care' as used in this Act may include any or all of the following services: maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep."

You ask whether the Act referred to contravenes the provisions of the Medical Practice Act, pointing out that hospitals have established clinical pathological laboratories for the performance of necessary hospital work for doctors and patients, as well as x-ray departments for x-ray diagnosis and treatment.

In reply permit me to state that in my opinion this Act does not contravene the provisions of the Medical Practice Act. While Section 1a provides for "care in hospital . . . physiotherapy . . . , material appliances and their upkeep," this language is to be construed in harmony with the provisions of the Medical Practice Act rather than as a possible amendment to it. So interpreted, Chapter 386 will not permit a corporation to contract to furnish medical attention or, in fact, do so. It will likewise not permit the supplying of physiotherapy, material appliances, or the upkeep of the latter, if the supplying thereof requires the doing of an act which would contravene the provisions of Section 17 of the State Medical Practice Act. The latter section prohibits one not licensed as a physician and surgeon from advertising or holding "himself out as practicing, any system or mode of treating the sick or afflicted in this State." It likewise prevents an unlicensed person from diagnosing, treating, operating for, or prescribing for any ailment, blemish, deformity, disease, disfigurement, disorder, injury, or other mental or physical condition of any person.

As to your statement that hospitals have established clinical pathological laboratories for the performance of necessary hospital work for doctors and patients, as well as x-ray departments for x-ray diagnosis and treatment, I would state that while hospitals have the right to conduct certain technical work in clinical pathological laboratories, and to pay pathologists therefor, the pathologist must do purely technical work and cannot practice medicine unless licensed so to do. For example, an unlicensed person might make a technical examination to determine whether a specific germ or germs might be found in a given sample.

* See also page 119 of the August issue for the article by Deputy Attorney-General Browne, on "Regulation of the Professions by the State."

but would not be permitted to diagnose a patient's condition. Such diagnosis would have to be by a licensed person.

As to your statement that x-ray departments are established in hospitals for x-ray diagnosis and treatment, such hospitals paying unlicensed radiologists a salary, salary and commission or by commission alone, I would state that if the taking of an x-ray constitutes the practice of medicine, such unlicensed radiologists are violating the provisions of the State Medical Practice Act. Whether the taking of an x-ray constitutes the practice of medicine is a mooted question, at present under consideration by the Superior Court of the City and County of San Francisco. In such case it has been contended that the taking of an x-ray is an integral part of the practice of medicine, that it is a dangerous instrumentality and should not be permitted by other than a trained medical man. Whether this contention will be sustained is a question that cannot at this time be determined. However, I would state that there is no doubt but that the use of the x-ray in alleviating a mental or physical condition does constitute the practice of medicine, and that no hospital has the right to collect money for x-ray treatments and to compensate either a licensed or an unlicensed radiologist by way of salary, salary and commission, or commission alone. The only persons who may treat by x-ray and make a charge for so doing are those licensed to practice medicine and surgery, and it would seem that if such licensed persons permitted unlicensed persons to share compensation charged for such treatment they would be aiding and abetting an unlicensed practitioner, contrary to the provisions of the State Medical Practice Act.

In conclusion, I would state that, according to the view of this office, corporations may contract to furnish pathological services only where such pathological services do not constitute the practice of medicine. It is likewise my view, pending the decision in the case of in re application of McGranaghan, the matter [in the San Francisco Superior Court] above referred to, that corporations can contract to furnish nonmedical services of radiologists, whether such radiologists be licensed or unlicensed, but that unlicensed persons cannot treat a mental or physical condition of a human being.

I am prepared to say that both pathology and radiology may be divided into technical and professional fields.

Very truly yours,

U. S. WEBB, *Attorney-General.*
By (Signed) LIONEL BROWNE, *Deputy.*

* * *

Based on the Attorney-General's Opinion, What Shall Be the Course of Action?—It is to be remembered, whether one agrees with or does not agree with Deputy Attorney-General Browne, that his opinion, as stated above, must be followed until overruled by higher legal authority; and members of the profession should keep this fact in mind, because what concerns physicians in all this, are not academic opinions of a disputant nature, but that course of action which, according to the constituted law of the land, must be followed.

* * *

Certification by the State Board of Health.—Having considered the above at some length, let us now briefly take up some of the problems which have been thrust upon the State Board of Health, in so far as the certification of corporations organized for nonprofit hospital service is concerned. The language of Assembly Bill No. 246, Chapter 386, includes in its Section 1 the following:

". . . ; and provided further that no corporation authorized by the provisions of this Act to establish, maintain and operate a nonprofit hospital service plan may itself furnish hospital care to its subscribers or do any of the acts herein authorized, unless and until it shall have first procured a certificate from the State Department of Public Health certifying that it is complying with the standards required by said State Department of Public Health; nor shall any such corporation enter into any contract with any hospital for the furnishing of hospital care to its subscribers unless the hospital with which it contracts has procured such a certificate from the State Department of Public Health."

* * *

What Shall Be the Standards Set for a Corporation Operating a Nonprofit Hospital Service?—Certainly the above is somewhat of a large contract to add to the many other legal responsibilities of the State Board of Health. However, Chapter 386 of the statutes is now the established law, and of necessity, the members of the Board must ask themselves what requirements or standards shall be demanded, before a corporation receives the State Health Board's sanction to operate a nonprofit hospital? Among such questions upon which the board may be called to give some decision, the following may be enumerated:

(*a*) That each corporation applicant shall establish, to the satisfaction of the Board, that it is not wholly or partly supported by taxation except where the applicant is the only hospital in the county where it is located, or is a hospital maintained and operated by or in connection with a state college or university of the State of California in conjunction with and as a part of its educational and administrative program.

(*b*) That any such hospital wholly or partly supported by taxation (and the only hospital in the county where it is located) shall be operated for residents of such county only; any such hospital maintained and operated by or in connection with a state college or university of the State of California shall be maintained and operated only so far as necessary for its educational and administrative program.

(*c*) That each applicant corporation shall establish, to the satisfaction of the Board, that the services which it proposes to furnish shall include only maintenance and care in hospital, nursing care, drugs, medicines, physiotherapy, transportation, material appliances and their upkeep, and shall not include pathological, roentgenological, anesthetic, or any other professional services of any physician.

(*d*) That each applicant corporation shall establish, to the satisfaction of the State Board of Health, that it or any of its agents or representatives is not organized, maintained, or operated for the purpose, directly or indirectly of acting as a capper or steerer or of obtaining patients for any physician or physicians.

(*e*) That the articles of incorporation and by-laws of each applicant corporation shall provide that any excess of income over reserves shall be devoted to the betterment of the service furnished subscribers, and that under no circumstances or conditions shall the applicant or any shareholder, member officer, director, or owner of any interest in the applicant be entitled to receive any part or portion thereof other than a reasonable compensation for services actually rendered in the operation and maintenance of applicant.

(*f*) That the articles of incorporation, by-laws, or other contractual papers or document of applicant corporation shall provide that in the event that applicant ceases business, any surplus remaining shall be distributable and devoted to the subscribers and contract holders.

(*g*) That all contracts for hospital care shall include at least the following: ward bed, board, general nursing service, operating-room service, medical and surgical dressings, and drugs other than compounded prescriptions and proprietary drugs. No conditions or excep-

tions shall be contained in such contracts other than for insanity and chronic tuberculosis. All such contracts shall provide at least twenty-one days of twenty-four hours each of hospital service per annum. The proposed hospital contract shall in all other respects be fair, just, and equitable to the purchasers thereof, and such as will not work a fraud or injustice upon any intended subscriber, member, beneficiary, or other person.

(*h*) That the applicant corporation must establish, to the satisfaction of the State Board of Health, that it is able to adequately provide the hospital care which it proposes to offer to purchasers thereof.

(*i*) That the applicant corporation shall specify the rates, dues, fees, or other charges to be imposed upon subscribers, members, beneficiaries, and other purchasers thereof.

(*j*) That the contracts, membership certificates or other documents evidencing the right of the purchaser to hospital care, shall be submitted to, and approved by the State Board of Health, and no other documents shall be used. Such documents must show on their face the times at which the benefits take effect and terminate, whether the contract purports to benefit more than one person thereunder, and must include a plain and complete statement of the membership charges, dues or contributions or payments which shall be in such amount as shall be reasonably required to maintain and provide the service offered without profit.

(*k*) That the contract and any endorsement or attached papers must be plainly printed or typed, of which the type shall not be smaller than 10 point. The exclusions and exceptions must be printed with greater prominence than the benefits to which they apply. If any portion of the contract purports by reason of the circumstances under which an illness, injury or disablement is incurred to reduce any services to less than that provided for the same illness, injury, or disablement incurred under ordinary circumstances, such portion must be printed in bold-face type and with greater prominence than any other portion of the contract.

(*l*) That if the contract contains any provisions purporting to make any portion of the charter, constitution or by-laws of the corporation a part of the contract, such portion must be set forth in full in the contract.

(*m*) That each such contract must contain the following in prominent black-face type not less than 10 point: "Nothing in this contract contained shall in any way or manner restrict or interfere with the right of the subscriber (member or beneficiary) to make a free choice of his attending physician, who shall be the holder of a valid and unrevoked physicians and surgeon's certificate, and who shall have the right to attend the subscriber (member or beneficiary) professionally in any hospital furnishing hospital service provided by this contract (certificate)."

(*n*) That each applicant corporation shall agree to and with the State Department of Public Health that every subscriber, beneficiary or contract holder shall have the right to be attended in its hospital or any hospital with which it contracts, by the physician who is the holder of a valid and unrevoked physician's and surgeon's certificate while receiving the care provided for in such contract (certificate).

(*o*) That each such applicant corporation shall specify what portion of the consideration received by it from its intended subscribers, members or contract holders, is to be expended for purposes other than the furnishing of hospital care, and no applicant shall be licensed hereunder by the State Department of Public Health which expends more than —— per cent of the —— periodic payments therefor.

(*p*) That every applicant corporation shall specify the portion of the dues, fees or contract payments to be received from its members, subscribers or contract holders to be devoted for the solicitation of members, subscribers or contract holders, and not more than —— per cent of the first —— months' payments therefor shall be expended for such purpose. Every applicant shall specify the portion of the dues, fees or contract payments to be received from its members, subscribers or contract holders to be devoted to administration of applicant, and not more than —— per cent thereof shall be expended for such purpose.

(*q*) That the applicant shall submit to the State Department of Public Health all promotional and advertising matter which it proposes to issue, whether verbally or in writing, and no representations, advertisements, or promotional matter of any kind shall be issued by the applicant except that submitted to and approved by the State Board of Public Health. (As Corporation Commissioner rules in matters of this nature.)

(*r*) That the applicant corporation shall specify and expressly agree to and with the State Department of Public Health that no physician and surgeon shall attend the members, subscribers or contract holders through more than one bona fide assistant; all other attendance shall be by the physician selected by the subscriber, member or contract holder personally.

(*s*) That every applicant corporation shall state the names of its directors, officers, managers, and operating executives, their addresses, their qualifications and experience, to render the hospital care proposed to be furnished, and shall fully describe the hospital facilities; and if the hospital care is to be furnished by hospitals under contract, the names, addresses, locations and full descriptions of such hospitals, with full and complete copy of all contractural documents entered into or proposed to be entered into between applicant and any such hospital or hospitals.

(*t*) That every certificate issued by the State Department of Public Health shall be issued for a period not exceeding one year, and every recipient thereof shall be required to renew its application annually for extension thereof.

* * *

Component County Societies and Members Are Invited to Make Further Suggestions.—At this point we are tempted to wonder how many members have taken the time to read all the foregoing? It is to be hoped that many have done so; but for those who have not even scanned the above, it may be stated that all these and other questions of policy must necessarily be taken up for consideration by both the Health and Insurance Departments of the State of California, and that in equal, though unofficial measure, they are of interest and importance to the officers and members of the California Medical Association. Therefore, an invitation is extended to component county societies and to individual members of the medical profession to feel free to send any further suggestions to the Association secretary, whose office will note their contents and then transmit them to the State Board of Health.

Let it be remembered, at the present time, that the proposition which faces the citizens of California and its medical profession is not whether Assembly Bill No. 246—Chapter 386 is a good or poor law, or desirable or undesirable, but how this new statute can so be administered that it will work in fullest measure both to the mutual best interests of the people of California, and of scientific and organized medicine.

PSITTACOSIS IN CALIFORNIA

Birds of the Psittacine (Parrot) Family Responsible for a New Disease.—Whether some choose to believe it or not, the fact remains that there is a disease known as psittacosis, found in

birds of the psittacine (parrot) family. And, further, that human beings can and do contract that disease.

In this issue, as reported on page 257, three cases are presented: two by Doctor Steele of Santa Barbara; the third, that of Dr. H. E. Hasseltine, an officer in the United States Public Health Service.

* * *

Psittacosis Has Been an Important California Public Health Problem.—No recent public health activity has given the California State Board of Health more distress, or taken more time for proper study, than the efforts necessary in the last several years to eradicate psittacosis in California, and to eliminate it as a cause of human illness and death. Several factors complicate the solution of the problem—among them, first, the fact that the raising of parrots ("love birds" in particular), is an industry of considerable importance in Southern California; secondly, that owners of many of the aviaries are citizens of very moderate means, to whom the quarantining of aviaries often means a personal and serious bread-and-butter consideration; third, that shipment of parrakeets to other states involves the United States Public Health Service; and fourth, lack of legislative appropriation to compensate owners for birds ordered to be destroyed by the representatives of the State Board of Health adds to the complexities of the situation.

The economic extent of the parrot-breeding industry, and the amount of laboratory investigation carried on by the State Board of Health may be gleaned from portions of a letter of July 19 to the Board's president:

"The survey, which we have conducted in Los Angeles County, shows there are 302 commercial aviaries with parrakeets listed as 39,233. (Including those in private aviaries, there are 56,000.) There have been 112 aviaries certified in the State in the past year, eighty-three of these being in this county.

"Since Miss Bech (technician pathologist of the Board) came down here in March, 1934, she has autopsied 11,000 birds (approximately)."

* * *

Psittacosis Regulations Have Caused More or Less Irritation in the Industry.—As before stated, a very considerable number of citizens who have taken up the breeding of birds of the parrot family, as a major or as a side-line, are persons in comparatively humble economic circumstances. When such persons possess aviaries containing several hundreds of birds, and the aviaries are kept in quarantine for months, the cost of feed and care may amount to considerable sums. Many of these citizens have been propagandized by others of their fellows, who hold that there is no such disease as psittacosis, and that the restrictions placed upon the breeding, sale and shipment of parrots by the California State Board of Health are not necessary. From individuals, and from organizations representing the industry, therefore, protests have been registered with the California State Board, with members of the legislature and other state officials.

State Regulations Were Necessary to Prevent a Federal Embargo on Shipments.—The State Board of Health, however, has had no option in the premises, because outbreaks of psittacosis in Minnesota, Pennsylvania and elsewhere, traced to parrakeet shipments presumably from California, led the United States Public Health Service to inform the California authorities that, if the State Health Department did not exercise adequate supervision, then the Federal Government would place an embargo upon all interstate shipments of birds of the psittacine family.

* * *

Federal Public Health Service Objects to Less Strict Regulations.—Recently the request of a group of aviary owners for an amelioration of the requirements for certification of shipment of interstate psittacine birds was forwarded to Surgeon-General H. S. Cummings; and in a reply, dated August 14, 1935, sent to the California State Board of Health, the Surgeon-General wrote as follows:

"Since experience with the enforcement of your existing State regulations over a period of more than a year has demonstrated that these regulations apparently are giving satisfactory protection to the other states against the transmission of psittacosis through interstate shipments, the Public Health Service would not look with favor upon any change at this time.

"While this office has expressed the view that the use of young birds for testing purposes would appear to be satisfactory, purely from a scientific standpoint, this statement should not be taken as an indication that the Public Health Service recommends the substitution of this method for the procedure now used by the State of California, which calls for the testing of both immature and mature birds.

"It is suggested that the bird breeders again be informed that should any change in procedure required under the existing regulations result in another outbreak of psittacosis traceable to California through an interstate shipment, the Public Health Service would not temporize further, but would recommend an absolute quarantine against all shipments to other states."

* * *

The Present Status of the Psittacosis Problem.—A perusal of the above makes it very evident that the Federal Government will tolerate no letting down in the rules and regulations having to do with interstate shipments, upon which depend largely the profits from the industry; and as it is apparent that psittacosis must be included in the list of diseases only recently recognized as having possibility of serious menace to the public health, the work already done in California largely through the coöperation of Dr. Karl F. Meyer, director of the Hooper Foundation of Medical Research of the University of California, is worthy of special attention. It is true that the State Health Board was required to change its regulations from time to time as new facts concerning the disease were proven; but at all times an effort has been made to be as lenient as considerations warranted. The study of psittacosis continues to receive earnest attention in the Hooper Foundation laboratories in the Medical Center in San Francisco.

Physicians Should Read Doctor Steele's Reports on the Santa Barbara Cases.—Attention is called to an article by Doctor Meyer printed on page 260, in which the incidence of psittacosis among wild birds of the psittacine family in Australia is discussed; and we conclude our own comments by calling attention to a memorandum received from Doctor Meyer, and which we have appended in the nature of a discussion to the paper sent in by Doctor Steele—wherein it will be noted that Doctor Meyer declares his belief, that "the importation of Central American Amazon parrots into California should be prohibited."

It is to be hoped that members of the California Medical Association will avail themselves of the opportunity to read the case reports submitted by Doctor Steele, because psittacosis is a disease that may be easily confused with other conditions, and the symptoms and signs should be known by all physicians, so that when sporadic instances of the disease do occur, they can be recognized.

AMBULANCE CHASING

"Ambulance Chasing": An Unethical Conduct in Legal and Medical Professions.—An example of "ambulance chasing" which, in some communities is an evil that has grown with all the vigor of rank weeds, is afforded when an unethical attorney and a code-violating physician, having mutual understanding to secure professional work for themselves, directly or indirectly approach citizens who have met with accidents. As "cappers" or "steerers," the two professional representatives often aid and abet one another in their efforts, and encourage the accident victims to file suits for damages, on the ground of real or exaggerated disabilities.

It is interesting to note that the organized legal profession of California recognizes the menace to the ethics of the profession of law that comes into play when "ambulance chasers" are operating, and that recently steps have been taken to investigate and penalize members of its profession who are guilty of such practice.

* * *

Action of the California State Bar Association.—The following article, from the Los Angeles *Herald-Express* of September 5, sheds further light upon what is being done by the California State Bar Association. The action of the State Bar Association has the approval of organized medicine, as represented by the California Medical Association and its component county society units:

CALIFORNIA BAR WARS ON "AMBULANCE CHASERS"

A state-wide "clean-up" of the ranks of attorneys was under way today, under the leadership of the State Bar Association, and following the admonition given to lawyers at the recent convention here of the American Bar Association to "clean their own house."

First result was the arrest of an alleged "ambulance chaser," and it was indicated that elimination of ambulance chasing would be the first objective of the drive.

Ambulance chasing is the practice of soliciting lawsuits from victims of accidents.

Investigators for the State Bar Association will speed to the scene of every accident, it was reported, to catch the ambulance chasers in the act of soliciting business. When this is impractical, the investigators will interview accident victims to see if they have been solicited by ambulance chasers on behalf of lawyer-employers, and in such cases will endeavor to prosecute.

Attorney Philbrick McCoy is handling the campaign for the Bar Association, and coöperation is being extended by the city prosecutor's office through Prosecutor Newton Kendall and Deputies J. W. Joos and John Concannon.

Other State Association and Component County Society News.—Additional news concerning the activities and work of the California Medical Association and its component county medical societies is printed in this issue, commencing on page 301.

EDITORIAL COMMENT†

CORTIN IN GLAUCOMA

In the July 19, 1935 issue of *Science*,[1] an article appeared from the pen of E. M. Josephson, M. D., of New York City in which he described the successful treatment of chronic simple glaucoma with cortin, an extract from the cortex of the suprarenal gland. A résumé of this article appeared shortly afterward in *Time*, and I believe there has been some mention of the article in the newspapers. I presume all oculists who saw any of these articles shared my mingled feelings of interest and skepticism. I immediately wrote to Doctor Josephson for more details about the treatment, and while I did not receive a personal reply, I did receive a one-page reprint from the *Eye, Ear, Nose and Throat Monthly* of January, 1935, in which he described the successful treatment of one case of chronic simple glaucoma with the substance. No details of the method of administration or dosage were given.

At about the time the articles in the lay press appeared, I had under my care an Italian woman of thirty-five, who had been referred to me by Dr. Sterling Bunnell. She had had a severe tonsillitis and sinusitis, which were followed by a bilateral iritis complicated by secondary glaucoma.

Examination of the nose and throat by Dr. Harold Fletcher revealed hypertrophied and inflamed tonsils. Both antra contained pus, but the other nasal accessory sinuses were apparently not much involved or had cleared up. Repeated lavage of the antra did little to relieve the eye condition. One pupil had previously been dilated with atropin; the other had not. The intraocular tension in both eyes varied between 50 and 60 on the Mc-

† This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentations should be over five hundred words in length.

1 *Science*, vol. 82, p. 62.

Lean tenometer. The irides were violently inflamed; the anterior chambers were full of floating cells and a fibrinous exudate. A deep keratitis began at one side of the right cornea and had gradually extended into part of the pupillary area. The vision in both eyes was limited to the perception of hand movements at a distance of a few feet. The general physical examination, the urine and blood Wassermann were negative. The blood count was not remarkable.

The youth of the patient, the presence of the recent violent inflammatory reaction in the immediate neighborhood of the eyes, and close contact with an extensive case of impetigo in the same family, made me very hesitant to undertake any operative procedure.

One dose of suprarenin bitartrate was administered to both eyes. This resulted in the elevation of the intraocular tension in both eyes and a fairly wide dilatation of both pupils, and in greatly increasing the discomfort and apprehension of the patient. The day after the administration of the suprarenin bitartrate, Doctor Josephson's reprint arrived. I found that the substance was available under the name of Eschatin (Parke, Davis & Company); and after a consultation with Dr. Chauncey Leake, professor of pharmacology at the University of California, and Dr. Garnet Cheney, who had used the substance extensively in the treatment of Addison's disease, I decided to use it intravenously. One cubic centimeter was administered intravenously on August 28, 1935. Immediately before administration the tension was 60 in the right eye and 55 in the left by the McLean tenometer. Before the needle was withdrawn from the vein, the patient sat up and remarked that she saw better. I ascribed this to the Italian temperament; but in thirty-five minutes I again took the tension with the tenometer and could hardly believe my eyes when both eyes registered 45, McLean. The substance has been administered intravenously in doses of 1 cubic centimeter daily since, each time with a marked drop in the tension and a corresponding improvement in vision.

As soon as it was considered safe, her hypertrophied, infected tonsils were removed, and she has since shown slow but steady improvement. The cortin has tided her over the acute stage and saved her eyes from surgical operation, which at best is not very satisfactory in this type of case.

This experience leads me to believe that cortin has a very definite place in the treatment of glaucoma. It is, of course, probable that the more frequent administration would be advantageous. It would be interesting to investigate the possibility that the occasional beneficial effect of epinephrin in glaucoma may be due to an admixture of cortin, and to determine if instillation in the conjunctival sac is effective.

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NARCOSIS AND OXIDATIVE MECHANISMS OF THE BRAIN

In 1930 V. E. Henderson suggested, in *Physiological Reviews*, that the evidence then at hand was inadequate to support any theory linking narcosis with inhibition of normal oxidative processes in the brain. Despite the abundant and painstaking subsequent biochemical work by Holmes, Bülow, Ashford, Dixon, Peters, Rydin, Quastel and Wheatley, and others in England, and Wortis, Fenn, Gross and Pierce and others in this country, the ultimate solution of this pharmacologic problem has not been greatly clarified.

The case for a direct relation of narcosis and brain oxidations is based on this triad: (*a*) *certain* narcotic agents, as the barbiturates,[1] act on isolated surviving brain tissue to inhibit the oxidative enzyme system dealing with glucose, lactic and pyruvic acids in about the same concentration as is presumably present in very deep narcosis; also, after deep chloroform anesthesia,[1] but not morphin narcosis,[2] the surviving brain from animals so treated shows a perceptible decrease of respiration; (*b*) in a homologous series of narcotics, again taking the barbiturates as the best example, the degree of inhibition of oxygen consumption of surviving brain varies directly with the narcotic potency; and (*c*) the success of treating chronic depressive states in the insane by means of long-continued narcosis.

Failure to explain other experimental findings, however, detracts seriously from the acceptability of any theory relating brain oxidative rates and narcosis. These may be summarized as: (*a*) concentrations of drugs active on the carbohydrate oxidation system *in vitro* are in many cases far beyond those producing narcosis in the intact animal; (*b*) satisfactory evidence of segregation of drug in the brain *in vivo*,[3] or of enhanced susceptibility of anatomically discrete centers to inhibition of glucose metabolism has been lacking, although it is imperative that such a condition exist if the lack of activity of narcotics on whole minced-brain tissue is to be reconciled with their narcotic activity through depressing oxygen consumption; (*c*) active agents of types other than narcotics produce reversible changes in the oxidative rate of surviving brain tissue closely resembling[4] those brought about by narcotics even though of the amins so acting,[4] phenylethylamin and others may function in the lightly narcotized intact animal as cerebral excitants; (*d*) observations made on inhibitions of extra uptake of oxygen by treated autoxidized brain to which glucose is added may pertinently be objected to, since the oxidative processes in brain tissue have been shown through use of the catatorulin[5] effect

1 Quastel, J. H., and Wheatley, A. H. M.: Proc. Royal Soc., B, 112, 1932.

2 Gross, E. G., and Pierce, I. H.: Jour. Pharmacol. Exper. Therap., 53,156, 1935.

3 Koppanyi, T., and Dille, J. M.: Jour. Pharmacol. Exper. Therap., 54:84, 1935.

4 Quastel, J. H., and Wheatley, A. H. M.: Biochem. J., 27:1609, 1933; 28:1521, 1934.

5 Peters, R. A., Rydin, H., and Thompson, R. H. S.: Biochem. J., 29:53, 1935.

to be mediated by chain reactions; (*e*) passive or narcotized nervous tissue consumes considerable oxygen simply to maintain itself, and the increase during activity is slight as compared to muscular tissue; (*f*) it is questionable whether the same mechanisms of oxidation function in surviving brain as in the intact animal;[6] and (*g*) the study of tissue *in vitro* yields a partial picture only, in any case, since general humoral effects are absent.

Thus, while isolated tissue work on surviving brain is yielding much sound biochemical information, as to oxidative mechanisms present, the effects of agents such as potassium, phosphate, or vitamin B, and the availability of different substrates, the difficulties of obtaining significant pharmacologic data are such that perhaps little real progress can be made for some time. Meanwhile, such studies as those of Meyer and his coworker[7] point out interesting relationships between physical properties of agents and their narcotic potency, suggesting an explanation of narcosis which may be less mysterious than the postulated selective inhibitory action of narcotics on the lactic dehydrogenase of certain ill-defined centers.

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AUTOCYTOTOXIC "ANTIBODIES?"

Among the speculative immunologic theories of current interest, none is of wider clinical application than the tentative hypothesis that certain progressive degenerative diseases of highly specialized parenchymatous tissues are due to an auto-immunologic, or auto-allergic vicious circle. This theory assumes that, as a result of an initial toxic or infectious injury, certain highly specialized organ-specific tissues colloids are so denatured as to render them specifically antigenic for their animal of origin. The resultant antiorgan-specific immunity may conceivably be due to "antibodies" specifically cytotoxic for normal homologous tissues. These autocytotoxins may conceivably be formed in sufficient amounts to cause perversion or suppression of homologous tissue function, with ultimate atrophy or degeneration.

This futuristic theory is an apparently logical deduction from the rapidly increasing number of organ-specific proteins, lipoids, and carbohydrates now recognized in animal tissues. Some of these specific organic products are known to require but slight chemical or physicochemical alteration to render them specifically antigenic for the same animal species.

Hektoen and Schulhof,[1] for example, found that the organ-specific proteins of the crystalline lens of the rabbit eye are not demonstrably antigenic for rabbits, causing the production of no demonstrable antilens precipitins. Burkey, Woods, and Woodhall,[2] however, found that normal rabbit lens proteins can be separated into three crystalline factors, one of which is highly antigenic for rabbits, if freed from the "inhibiting" action of the other two factors. The "fractional antibodies" thus formed may presumably reach a sufficiently high titer in actively immunized rabbits to cause autocytotoxic cataract.

One would suspect from this finding that certain local bacterial infections might so denature the organ-specific factors in the liver, kidney, thyroid gland, and central nervous system, for example, as to set up a similar immunochemical vicious circle, leading to progressive degenerative lesions of these organs. The latest apparent confirmations of this fear are the production, by Doctors Rivers and Schwenther[3] of the Rockefeller Institute, of progressive degenerative lesions of the central nervous system as a result of heterophile antibrain immunization.

Doctors Rivers and Schwenther gave eight monkeys repeated intramuscular injections with normal rabbit brain emulsions alternated with normal rabbit brain lipoids. Brain lipoids are known to be organic-specific haptenes, which are rendered auto-antigenic by adsorption on an appropriate colloidal "carrier." After forty or more injections with these heterophile brain antigens, seven of Doctor Rivers' actively immunized monkeys began to show signs of ataxia. The ataxia became progressively worse and in certain cases ended in definite paralysis. Histologic study showed marked degenerative lesions of these ataxic or paralytic monkey brains, accompanied by extensive local demyelinization.

The New York investigators, however, very carefully avoid a definite conclusion as to the probable immunochemical mechanism involved in this experimental encephalomyelitis. They did rule out, however, the possibility that the encephalomyelitis is due to an intercurrent infection. No bacteria were demonstrable in the degenerated brains, nor were they demonstrably infectious on intracerebral injections into normal monkeys, rabbits, guinea-pigs, or mice. The possibility that the encephalomyelitis might be due to an environmental virus, nonpathogenic for normal animals, but pathogenic for animals subjected to the repeated toxic injury incident to heterophile immunization, has not yet been tested.

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6 Ashford, C. A., and Dixon, K. C.: Biochem. J., 29:167, 1935.

7 Meyer, K. H., and Hemmi, H.: Biochem. Z., 277:39, 1935.

1 Hektoen, L., and Schulhof, K.: J. Infect. Dis., 34:433, 1924.

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Sickness is very wasteful of time and money, as well as a disagreeable and alarming experience. It cuts off income and increases expenses. It threatens all that we hold most worth while—our ambitions, careers, usefulness to the community; our homes, friends, and families. It is the greatest obstacle to a serene, happy, contented, useful life. — Franklin D. Roosevelt.

ORIGINAL ARTICLES

PSITTACOSIS

WITH REPORT OF TWO CASES

By Arthur Bruce Steele, M.D.
Santa Barbara

Discussion *by Karl F. Meyer, San Francisco.*

THE diagnosis of obscure fevers has been facilitated by a better understanding of the symptomatology and pathology of disease caused by certain incitants. The closer coöperation between clinician, clinical pathologic laboratory and, at times, the State Public Health Service, has made for efficiency. The common diagnosis of influenza with or without bronchopneumonia has served to screen more careful investigation of probable etiologic factors.

The following two cases of psittacosis (with recovery) are presented to demonstrate the ease with which the etiology of this obscure fever may readily be confused and mistaken.

REPORT OF CASES

Case 1.—C. T. C. (65). American pet-shop dealer in Santa Barbara.

Family History.—Wife, age 62, shares the duties of the pet-shop. One daughter, married, is in good health.

Past History.—The patient has always enjoyed very good health, having had no serious illnesses nor operations. A mild bronchitic cough for many years, nocturia two or three times, and moderate overweight have been present.

Occupation.—The patient has been a dealer in birds for twenty-eight years, having been in Chicago prior to coming to Santa Barbara in 1912. He has been in contact with imported birds from South American ports as well as the Orient during many years of his life, and has related numerous instances of nursing sick birds, parrots, and parrakeets coming in shipments to his shop. Never, however, has he had symptoms of illness comparable to those experienced at the present time.

Present Illness.—About June 14, 1935, generalized aching throughout the body, with malaise and anorexia were experienced. A few days later chills and fever were complained of. Nausea and vomiting followed with a persistent bad taste in the mouth. After June 17 there was a sense of fullness in the pit of the stomach, and no tolerance for food without vomiting was daily present. A dull aching pain in the upper abdomen started about June 20, not entirely relieved by emptying the stomach nor taking soda. A moderate constipation, slight hacking cough with mucopurulent expectoration were present. Restlessness, anxiety, and prostration were apparent.

Physical Examination—June 22, 1935—revealed an elderly male, flushed, with blood-shot eyes, perspiring freely, and complaining of severe pain in the abdomen. The pulse rate was 80 per minute; respirations, 20; temperature, 103 degrees Fahrenheit; and blood pressure, 140/65. The eyes were red, and conjunctivae were injected. Except for marked tenderness in the epigastrium, with moderate abdominal distention, there were no abnormal signs elicited. Careful search for evidence of pulmonary pathology was lacking. All the symptoms and signs were referable to the abdomen.

Laboratory Tests.—June 23, 1935: Blood, 90 per cent hemoglobin; red blood cells, 4,620,000; white blood cells, 6,100; 82 per cent polymorphonuclears; 12 per cent small lymphocytes. June 27: white blood cells, 6,450; 85 per cent polymorphonuclears; 14 per cent small lymphocytes. Urine, specific gravity 1.028; trace of albumen; trace of sugar; trace of diacetic acid. Widal, negative. Agglutination undulant fever, negative. Kahn, negative.

Course of disease and investigation: The acute illness warranted hospitalization, and the patient was admitted to the Saint Francis Hospital, Santa Barbara, June 23, 1935. Gastric lavage relieved the extreme nausea somewhat on admission. Colonic flushes, 10 per cent glucose in normal saline were administered supportively. On June 24 gastro-intestinal series was started. Preliminary fluoroscopy by Dr. Daniel Clark, roentgenologist, St. Francis Hospital, Santa Barbara, revealed an annular shadow in the mid-zone of the left lung. A portion of his report follows.

"There is a roughly circumscribed parenchymal infiltration adjacent to the left hilum and toward the anterior portion of the lung. This infiltration is about two inches in diameter and is fairly homogeneous in character. It shadows out toward the periphery. This infiltration is decidedly atypical. Its shape at first suggests a pulmonary metastasis, but its haziness of outline and the character of the density are more suggestive of an inflammatory process."

The hacking cough which was present at the onset increased in severity, and the sputum, at first mucopurulent, became purulent, at times flecked with blood. A specimen was forwarded on June 27 to Dr. K. F. Meyer, Hooper Foundation, San Francisco, approximately the thirteenth day of the disease. This material was extracted overnight in the refrigerator, centrifuged and the supernatant fluid injected into mice. On the ninth day one of the mice, obviously ill, was sacrificed. Typical lesions of psittacosis were present, and L. C. L. bodies—the causative elementary bodies of the virus—were demonstrated in the liver and spleen; smears thus establishing conclusively the diagnosis.

The patient was transferred to the infectious disease wing of the Santa Barbara County Hospital. The fever subsided by July 9, 1935, and he was released from isolation August 1, 1935, following the report from the Hooper Foundation that the sputum forwarded on July 20 failed to infect mice.

* * *

Case 2.—Mrs. C. T. C. (62). American, housewife, and wife of a pet-shop dealer with whom she shares the duties of the shop in care of pets.

Family History.—Her husband, C. T. C., had been ill since approximately June 14, and she had taken care of the store entirely from June 22 to June 27, when she took to bed, too ill to work.

Past History.—Not important, except that through the past twenty-eight years she also had cared for the birds and animals in the shop and nursed them in illness. She related many instances of sick parrakeets and live birds she had taken care of in shipments from abroad when in Chicago.

Present Illness.—Approximately June 25, she developed chilliness, followed by fever. Weakness, aching through the body, lack of appetite, marked constipation, nausea, pain in the left chest and excruciating headaches early in the morning, marked the course of her illness. In view of the probable diagnosis of disease in her husband, she was admitted to the infectious disease wing of the Santa Barbara County Hospital on July 8, 1935.

Physical Examination.—Physical examination revealed a woman of sixty, flushed and moderately prostrated, complaining of excruciating headache. There were no findings of importance except that her temperature was 102.5 degrees Fahrenheit.

Laboratory Tests.—Blood: Hemoglobin, 90 per cent; red blood cells, 4,110,000; white blood cells, 7,800; 62 per cent polymorphonuclears; 26 per cent small lymphocytes. Urine: Specific gravity, 1.015; acid; trace of albumen; sugar, negative; Kahn, negative. Widal, negative. B. melitensis, negative agglutination.

Course of Disease.—The patient became afebrile on July 14, and was discharged August 1, 1935. At no

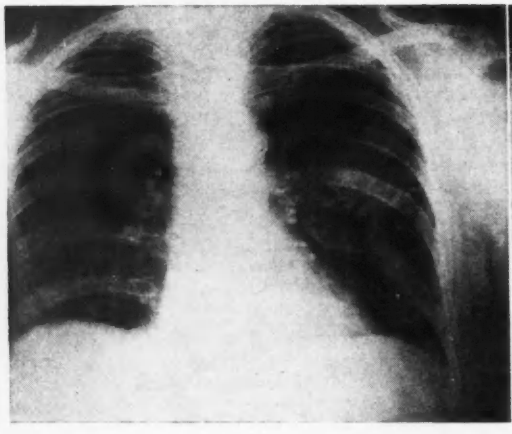

Fig. 1

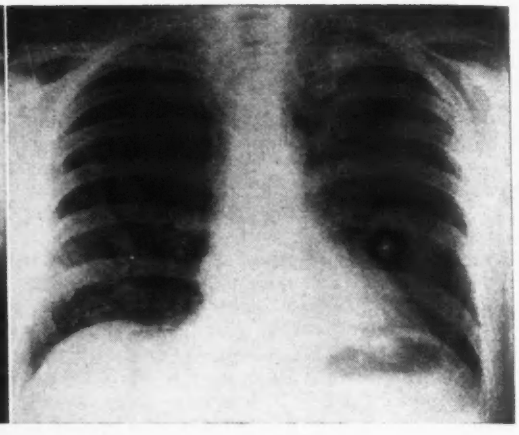

Fig. 2

Fig. 1.—Roentgenogram of lung fields showing annular area of pneumonic consolidation in left lung.
Fig. 2.—Roentgenogram of lung fields nine days later, showing absence of lesion in left lung and presence of similar lesion in lower right lung.

time was there any sputum obtained, although a slight hacking cough was present at times. Nasopharyngeal washings failed to infect mice.

EPIDEMIOLOGY

Epidemiology.—Many birds were present in the store when Mr. C. T. C. became ill June 14, 1935, including thrushes, mocking birds, redbirds, bulbuls, Petz conures, canaries, African love birds, and one Amazon parrot. Only one bird was ill, a Petz conure. This bird had been in the shopkeeper's possession for many months, having come from a dealer in Laredo, Texas. It was a source of pride to the owner that he was able to keep this sickly bird alive so long.

On June 22, Dr. K. F. Meyer of the Hooper Foundation, en route through Santa Barbara, took this bird with him to San Francisco. After exhaustive bacteriologic investigation, the organs of this bird were pronounced free from psittacosis virus.

Following this result, scrutiny of the shop drew attention to the Amazon parrot (*Amazona barbadensis* Gmelin) and, while in fair condition, suspicion warranted sacrifice of the bird. Bacteriologically, the organs were sterile, but inoculations of mice with emulsions of the liver, spleen, and kidneys produced lesions of psittacosis in the rodents. The virus readily passaged.

This bird, contrary to earlier statements of the manner of purchase, had been obtained from an itinerant peddler within recent weeks. At the time of purchase the cage from which the bird came contained one dead and two live parrots.

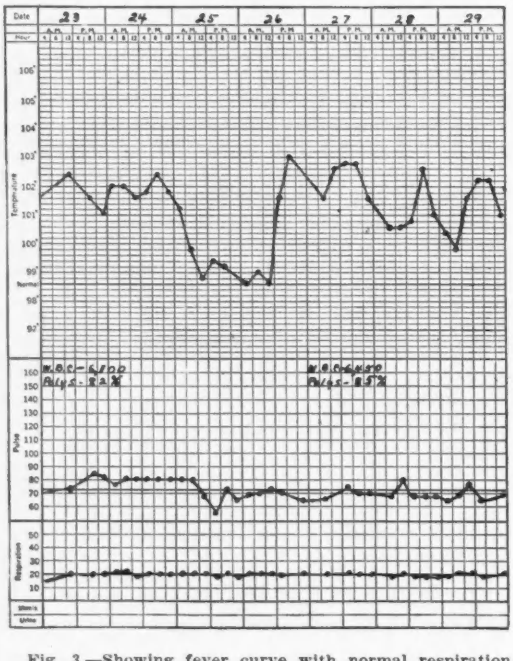

Fig. 3.—Showing fever curve with normal respiration rate and pulse rate curves; mild leukopenia present.

COMMENT

Luckie has summarized the clinical manifestations and important factors in confirming the diagnosis from studies made in this country following the epidemic of 1929-1930. Roth,[1] in discussing Luckie's paper, has outlined the restrictions by the United States Public Health Service placed on imported birds and the quarantine regulations affecting the same. These have become more stringent with each successive outbreak since the Surgeon-General issued his first order on January 25, 1930, affecting parrots entering the United States from a foreign port. It is possible that more careful regulations affecting interstate and intrastate traffic in birds of the psittacine family are required. The repeated warnings of Meyer[2,3] with respect to protective measures have borne fruit, as demonstrated in a recent survey of 164 aviaries by the Department of Public Health in which 55 per cent yielded, by repeated examinations, parrakeets which were free anatomically and by mouse tests of latent psittacosis.

The roentgenologic diagnosis of pulmonary lesions offered the first definite evidence of the nature of the disease. The migrating pneumonic process mentioned by Meyer[3] is beautifully demonstrated by the roentgenograms taken nine days apart. In Figure 2, the lesion in the left lung (Figure 1) had completely disappeared and now

an annular shadow is present in the lower right lung field. The pathology of the pulmonary lesions, as well as other organs in man, has been thoroughly described by R. D. Lillie [4] and by Poloyes and Lederer.[5]

The marked febrile state with normal respirations and pulse rate, with mild leukopenia, are shown in Figure 3. The clinical manifestations and the similarity to and the variation from the influenza symptomatology are commented on by M. A. Rabinowitz and S. H. Livingston.[6]

CONCLUSIONS

1. Two cases of psittacosis have been presented from one of which the virus has been demonstrated from the sputum.

2. The symptom complex has been typical of this type of infection, except for the occurrence of severe abdominal pain manifested in Case 1.

3. The epidemiology has been established and traced to an Amazon parrot in the store of the owner (Case 1).

4. The purchase of this bird from an itinerant vendor proved the break in the link of the control of the sale of psittacine birds by the Public Health authority.

5. That more stringent regulations with penalties for the sale of birds that have not been inspected by public health authorities is in order within the confines of the State of California, so that the desired-for goal—no psittacosis in the American bird industry—may be reached.

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DISCUSSION

KARL F. MEYER (Hooper Foundation, Medical Center, San Francisco).—A memorandum giving a summary of investigations concerning two cases of psittacosis in owners of a pet-shop due to contact with an Amazon parrot [*Amazona barbadensis* (Gmelin) *Sive Amazona ochroptera* (Reichenow)] would be as follows:

May 10, 1935: Mr. J. T. Cr., owner of a pet-shop at Santa Barbara, bought an Amazon parrot (*Amazona barbadensis*) from an itinerant peddler. At the time of the purchase the cage contained one dead and two live parrots. He transferred the Amazon to a backroom at his store, where he had various other birds (thrushes, mocking birds, redbirds, bulbuls, and Petz conures); after June, 1935, he added white canaries and African love birds. The Petz conure was ill and required special attention.

June 21, 1935: Mr. J. T. Cr., who had been ill for a week and felt below par for a month, was attended by Doctor Steele. He complained of fever, chills, general aches, pain, nausea, and vomiting.

June 23, 1935: On account of high temperature (103 degrees, pulse 80) and persistent nausea and vomiting, he was hospitalized. Irrational at times; white blood cells, 4,600; considerable mucopurulent sputum; sharply defined central area of consolidation in left lung.

June 26, 1935: Mrs. J. T., developed similar symptoms and was hospitalized. Nasopharyngeal washings of Mrs. Cr. obtained on July 19, 1935, failed to infect mice with psittacosis (bacteriologic washings contaminated with B. coli and alpha streptococci).

June 27, 1935: Sputum collected from Mr. J. T. Cr. (approximately thirteenth day of disease) infects mice with typical lesions of psittacosis on the ninth day. Bacterial flora mostly staphylococci and alpha streptococci.

June 29, 1935: Sputum collected (fifteenth day of disease) infects mice wih psittacosis lesions.

July 4, 1935: Sputum collected (approximately nineteenth to twentieth day of disease). One mouse of four infected; remainder non-infected.

July 12, 1935: Normal temperature.

July 20, 1935: Sputum fails to infect mice to date.

Comments.—Examination of Petz conure (*Eupsittula canicularis* Linnaeus), killed by the daughter of the owner on June 29, revealed a slight catarrhal inflammation of the intestines. The organs were bacteriologically sterile and were free from psittacosis virus.

The Amazon parrot was chloroformed at the store on July 19, 1935. The autopsy revealed the following:

Immature male, in fair condition; anus slightly soiled; nasal openings dry, but the conchae were injected and moist. The abdominal cavity moist; the spleen enlarged (15 by 13 by 10 millimeters) and soft; the liver enlarged with rounded edges and friable; the kidneys dark and firm; the lung crepitant throughout; the air sacs slightly thickened.

Bacteriologically the organs were sterile, but on inoculation on mice the following results are noted:

Spleen: Mice died on the seventh day (one mouse, one killed) with lesions of psittacosis.

Kidneys: Mice died with lesions of psittacosis; + seventh day (two mice).

Liver: Mice died with lesions of psittacosis; + ninth day (one mouse, one survived, weak virus).

Cloaca content: Non-infectious for mice.

Nasal mucosa: Non-infectious for mice.

Summary and Suggestions.—1. A 65-year-old pet-shop owner and his 62-year-old wife, who have doubtless had in the past contact with infected shell parrakeets, contracted psittacosis through exposure to an infected Amazon parrot. The clinical course was typical and the virus was demonstrated in the sputum of one patient.

2. The parrot was recently imported. It is not unlikely that the virus was primarily discharged in the urine and thus mixed with droppings at irregular intervals. Bird, at the time of examination, in latent state of infection.

3. The importation of Central American Amazon parrots into California should be prohibited.

* * *

The observations made by Dr. Arthur B. Steele deserve some comment.

1. Contemporaneous publications on psittacosis convey the impression that the apparent immunity of bird breeders and pet-shop owners to psittacosis is particularly evident in those who have had contact with tropical birds for many years. It has been reasoned that continuous exposure to the virus may induce subclinical infections and subsequently permanent immunity. Nobody will deny the reasonableness of these conclusions, since psittasocis in the natural and the experimental hosts (mice, guinea-pigs) has a pro-

nounced tendency to latent infections. Furthermore, epidemiologic observations indicate that, as a rule, the beginners in the parrakeet raising trade contract the disease. In fact, in California, 38 per cent of the reported cases of human psittacosis developed in the owners of large or small parrakeet aviaries or in their families. Why these two pet-shop owners, who had handled sick and diseased birds for many years, failed to acquire complete protection is indeed an intriguing question. By comparison, it is evident that the two patients possessed a certain degree of resistance, since they recovered, irrespective of their ages (sixty-five and sixty-two). Furthermore, it is not unlikely that the resistance against psittacosis is probably not absolute, but is conditioned by factors concerning which very little is known. In fact, it is probable that the striking resistance of many young and middle-aged individuals who may handle infected psittacine birds with impunity is nonspecific. It may be the expression of a hereditary conditioned nonsusceptibility which may gradually diminish with age. The complement fixation tests indicated that Mrs. C., who had a relatively mild infection, elaborated abundant antibodies in her blood serum, while the husband, tested during his convalescence, produced no immune substances. With the aid of these and similar tests, it is anticipated that some of the mooted questions relative to the immunity in psittacosis may be clarified.

2. Epidemiologically the Santa Barbara cases furnished ample evidence concerning the unreliability of testimony collected during the illness of the parties involved. Four independent investigators had been assured that the pet-shop owner, who had voluntarily discontinued the sale of parrakeets in 1932, had not purchased any tropical birds in recent months. Since he had nursed for several months a supposedly sick Petz conure, suspicion was directed to this bird and in a spell of hysteria the daughter killed the bird without affording the investigators an opportunity to study the clinical symptoms. Since this conure was found to be free from psittacosis, both anatomically and by animal tests, the pet-shop owner, who by that time had recovered, was interviewed again. He then admitted the purchase of the Amazon parrot from an itinerant peddler on May 10, 1935. At the time of the purchase the cage of the peddler housed two live and one dead parrot. Notwithstanding this fact the purchase was made. On June 20 (five weeks later) the patient, who had been ill for a week, consulted his physician.

3. Investigations by no means completed failed to establish the origin of the Amazon parrot and the source of the infection. It is not unlikely that the bird entered the country illegally.

4. At the time the Amazon parrot was autopsied (July 19, 1935, eight weeks after the onset of the illness) the cloacal content and the nasal mucosa proved to be noninfectious. However, comparative tests indicated a striking concentration of the virus in the kidneys. This and similar observations made on other birds strongly support the belief that the virus leaves the bodies of the birds through contamination of the cloacal content with highly infectious urine.

*

Report of Case (Reference to Illness of Doctor Hasseltine, United States Public Health Service).—In addition to the above discussion of Doctor Steele's report of cases, another case of infection of special interest to Californians is reprinted from the *Journal of the American Medical Association* (issue of August 31, 1935, page 727).

Owing to lack of funds, the State Board of Health found it necessary to close the psittacosis laboratory in Pasadena. The United States Public Health Service had detailed Doctor Hasseltine to coöperate in the State investigations. The item referring to his illness from psittacosis follows:

DOCTOR HASSELTINE ILL WITH PSITTACOSIS FOR SECOND TIME

Dr. Hermon E. Hasseltine, United States Public Health Service, is ill in San Francisco with psittacosis. This is the second time that Doctor Hasseltine has had the disease, the first attack having occurred in 1930 in Washington, where he was making laboratory studies of the epidemic that then prevailed. For three years Doctor Hasseltine was in charge of the psittacosis laboratory of the public health service at Pasadena, which was closed several months ago. He was then detailed to San Francisco to make a study of bubonic plague. While he has not been in contact with parrots recently, it is believed he acquired the infection in Pasadena, July 10, from instruments used in previous studies, which he handled while packing them for shipment. He became ill July 25 and on July 28 was admitted to the marine hospital. He is now much improved. So far as the public health service is informed, this is the only instance of psittacosis occurring a second time of which there is record. In March, 1930, Doctor Hasseltine suffered a moderately severe infection with psittacosis apparently acquired at the National Institute of Health, although definite history of his contact with infected birds could not be traced. His illness occurred at the time that ten other persons connected with the institution were infected. Two of this group were in direct contact with infected birds, but the means of transmission of the disease was not determined in the other cases. Doctor Hasseltine has been with the public health service for twenty-six years.

PSITTACOSIS IN AUSTRALIA

By K. F. MEYER
San Francisco

QUITE recently Dr. F. M. Burnet kindly sent a summary of his detailed studies on psittacosis established in the Australian parrots. In a previous publication (*The Medical Journal of Australia*, December 8, 1934, p. 743) he conclusively demonstrated that the red-backed parrots (Psephotus

TABLE 1.—*Psittacosis in Australian Parrots*

Genus and Species	Proved Psittacosis	Enlarged Spleen without virus	Normal Spleen	Total
Lorikeets (Trichoglossus)	7 (58%)	2 (17%)	3 (25%)	12
Cockatoos (Kakatoe)	3 (6%)	10 (21%)	34 (72%)	47
Cockatiel (Leptolophus)	6 (60%)	0	4 (40%)	10
Rosellas (Platycercus)	5 (5%)	19 (18%)	84 (78%)	108
Grass Parrakeet (Psephotus)	28 (41%)	0	40 (59%)	68
Budgerigar (Melopsittacus)	1 (5%)	1 (5%)	19 (90%)	21
Grand total	50 (18.2%)	32 (12%)	184 (70%)	266

haemotonotus), rosellas (Platycercus eximius) and cockatiels (Leptolophus hollandicus), with enlarged spleens (8 to 10 millimeters in diameter), were infected with the virus. Ten of twelve grass parrakeets purchased from a Melbourne dealer were carriers of psittacosis. Another paper on "Enzoötic Psittacosis in Wild Australian Parrots" will appear in the *Journal of Hygiene*, but Doctor Burnet has given permission to use the data sent to me. For the sake of brevity, the essential facts are condensed in Table 1.

A very high proportion of the lorikeets, cockatiels, and grass parrakeets are, obviously, infected in the wild state. The virus strains which have been isolated appear to be less virulent than the strains obtained from, and responsible for the human cases in the European and American outbreaks of 1929-1930. However, despite the prevalence of the virus, only three instances in which human infections might be suspected have come to the attention of the authorities. The investigations are still in progress.

Hooper Foundation.

ROENTGENOLOGIC EXAMINATION OF THE STOMACH AND DUODENUM—SELECTION OF PATIENTS*

By B. R. Kirklin, M.D.
Rochester, Minnesota

AMONG the difficult decisions often required of the clinician is that of determining whether or not certain patients should be subjected to roentgenologic examination of the digestive tract. It is to be hoped that the day will come when this test will be applied in every instance in which it might by any chance afford diagnostic aid; but by reason of economic and other considerations its employment as a routine is now seldom practicable.

TENDENCIES IN PRESENT METHODS OF EXAMINATION

Under present conditions, the tendency is to request this method of investigation only when symptoms and signs of disease are pronounced and more or less diagnostic. In such cases roentgenologic study is solicited to furnish objective confirmation of the clinical opinion, and to show the exact site, extent, and hidden complications of the lesion. Unfortunately this plan does not provide for patients whose complaints are vague, trivial, or atypical, but who, nevertheless, have organic disease, sometimes of grave character. This is especially true of early gastric carcinoma which, unless obstructive, often gives rise to such slight clinical manifestations that existence of the disease is not likely to be considered, and unless roentgenologic aid is invited the lesion will probably escape discovery until effective treatment is no longer possible.

* From the Section on Roentgenology, The Mayo Clinic, Rochester, Minnesota.

Read before the General Surgery Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

GASTRIC SYMPTOMS AND GASTRIC LESIONS

Practitioners have learned that gastric symptoms rather seldom imply organic disease of the stomach, and that perhaps nine times in ten such complaints are either purely functional or due to affections elsewhere than in the stomach. Indeed, there is danger that the clinical diagnostician may become so keenly aware of this fact that he will overlook the gastric lesion in the tenth case. At all events, he will find it well worth while to insist on roentgenologic examination whenever the clinical data are potentially significant of organic disease in the digestive tract, even though the symptoms and signs are single, petty, anomalous, or illogically associated, if they are persistent or recurrent, and if their cause has not been found. Among such manifestations are anemia, loss of weight, nausea and vomiting, hemorrhage, epigastric pain related to food, and a varied assortment of slight or eccentric abdominal symptoms that seem to have no logical basis. I shall present a few cases that illustrate the advisability of regarding those manifestations as signals for examination with roentgen rays. It will be understood that I am not a clinician, that the cases were taken from the files of the roentgenologic section, and that the reasons which impelled the clinical consultant to request the examination were not learned until after it had been made.

ANEMIA AS A GASTRIC SYMPTOM

Anemia without other patent manifestations has such a varied genesis that to determine the cause in a specific instance may require extensive search. Although the more common sources should be considered first, time is often lost in canvassing them repeatedly and ignoring the less common causes. Among the latter, primarily benign polypoid neoplasms of the stomach deserve especial note, for they almost invariably become eroded and anemia results from the steady loss of blood. Usually they are relatively small, and rarely is it possible to discover them without the roentgen rays. Although actual metamorphosis of benign into malignant newgrowths has not been observed, it is known that malignant areas are often found in gastric tumors that are otherwise essentially benign, and that malignant neoplasms may succeed or accompany benign newgrowths. Hence, there is reason to believe that a diagnosis of benign tumor is sometimes equivalent to a diagnosis of early carcinoma. At the clinic every patient having anemia without known cause is sent for roentgenologic examination of the alimentary canal. That this routine is warranted is shown by the following cases:

REPORT OF CASES

Case 1.—Eighteen months before coming to the clinic, a woman, aged fifty-four years, noted increasing pallor and weakness. Several months later she went to her physician, and a roentgenologic examination of the stomach and colon was made, but the results were negative. Her physician prescribed large doses of liver extract and ventriculin, and the patient gained ten pounds (4.5 kg.). When she came to the clinic the value for hemoglobin was 31 per cent and the blood picture was that of pernicious anemia. Roentgenologic examination of the stomach disclosed an

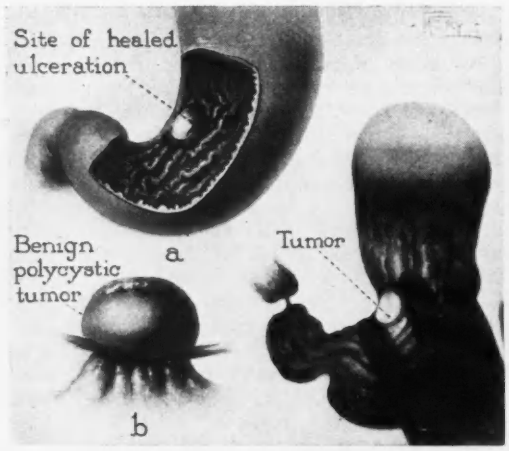

Fig. 1.—Benign polycystic tumor of the stomach; *a* and *b*, specimen; *c*, roentgenoscopic appearance.

apparently benign sessile tumor, four centimeters in diameter, on the lesser curvature, and posterior wall of the stomach adjacent to the angle (Fig. 1*c*). At operation the tumor was excised, and on examination by the pathologist proved to be a polycystic adenoma (Figs. 1*a* and 1*b*).

* * *

Case 2.—A man, aged thirty-six years, had been in good health until nine months before he came to the clinic. At that time, because of pallor, weakness, and loss of weight, he consulted his physician, who made a diagnosis of anemia and treated him for it. For two or three months his condition improved and he felt fairly well. He had no gastric symptoms, but was extremely constipated and had colicky pains in the lower portion of the abdomen. When he appeared at the clinic the value for hemoglobin was 42 per cent, a mass was palpable on the rectal shelf, and carcinoma of the colon was suspected to exist. Roentgenologic examination of the colon was negative, but examination of the stomach and duodenum disclosed obstruction at the outlet of the stomach. It was impossible to rule out a duodenal ulcer with a large crater. On exploration, inoperable carcinoma of the pyloric end of the stomach, with general abdominal carcinosis, was found. A specimen examined by the pathologist proved to be adenocarcinoma, of Grade 4.

LOSS OF WEIGHT

In the past, loss of weight was always regarded as an important sign of potential disease, even when all other evidence was lacking. During recent years, however, esthetic considerations and continued emphasis on the hazards of being overweight have led many men and women to reduce their weight by restricting their diet, and there are so many physiologic causes of thinness that loss of weight is less likely to receive the attention it deserves. When it is the principal manifestation apparent, the first thought usually is of pulmonary tuberculosis, and in his devotion to this angle of investigation the clinician may forget that cancer of the stomach or colon may be heralded solely by this sign. Accordingly, at the clinic, roentgenologic examination of the digestive tract is prescribed as a routine in every instance in which an adequate explanation for loss of weight has not been found.

Case 3.—Loss of weight was the chief complaint of a woman seventy years of age. She had lost 24 pounds

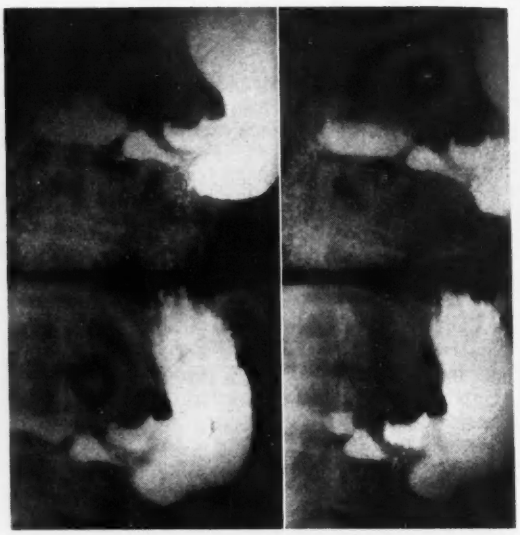

Fig. 2.—Small ulcerating carcinoma on lesser curvature below the angle of the stomach.

(10.9 kg.) within three months. For about three years, two or three times a week, she had had attacks of right subcostal pain, together with belching, mostly after the evening meal. The total gastric acidity was 54; free acids, 32. At examination with roentgen rays, a small ulcerating carcinoma was found on the posterior wall, near the lesser curvature at the angle of the stomach, and also a duodenal ulcer (Fig. 2). The carcinoma, together with about four-fifths of the stomach, was resected. The growth, which measured 4 by 3 by 2 centimeters, pathologically proved to be an adenocarcinoma, of Grade 4, and the lymph nodes were involved.

* * *

Case 4.—A man, forty-six years of age, had lost 25 pounds (11.3 kg.) in less than two months, and this was his sole complaint. After the roentgenologic report was received, he was again questioned closely, and said that he had had sour stomach with epigastric fullness and gas occasionally during recent weeks. Total gastric acidity was 10, all combined. With roentgen rays an ulcerating carcinoma, causing some obstruction, was discovered at the pyloric end of the stomach (Fig. 3). At operation the growth, an adenocarcinoma, of Grade 3, was found to have perforated to the pancreas.

RECURRING VOMITING

Recurring vomiting, in the absence of acute disease or other obvious causes, is so often a mark of gastric or duodenal lesions that they will almost invariably be taken into consideration, and roentgenologic study is likely to be requested. On the other hand, nausea without vomiting will not usually be regarded seriously, yet it may be the only symptom of a grave affection, as in the following instances:

Case 5.—A physician, aged forty-nine years, came to the clinic for diagnosis and treatment of a cardiac affection. One year previously, he had had a severe attack of thoracic pain which for ten days had required morphin for relief. The diagnosis at that time had been angina pectoris. He had been unable to attend to his duties for about six months, and during this period he had rather persistent nausea, especially noticeable when his stomach was empty. At the clinic the diagnosis of angina pectoris was confirmed; but

Fig. 3.

Fig. 4.

Fig. 3.—Large ulcerating carcinoma on lesser curvature near the pylorus, producing obstruction.
Fig. 4.—Small ulcerating malignant lesion on lesser curvature.

because of the nausea, roentgenologic examination of the stomach was ordered. This disclosed a small, ulcerating prepyloric carcinoma (Fig. 4). At operation, it was found that the carcinoma had perforated against the liver. For this reason, and because of the additional risk due to the cardiac affection, resection was not attempted and gastro-enterostomy was performed. The patient recovered from the operation, returned to his home, and resumed his work. He gained in weight, but pain attributable to the angina persisted. Two years later he died of bronchopneumonia. At necropsy, extensive carcinoma of the stomach, with peritoneal metastasis, were found.

* * *

Case 6.—A woman, thirty-three years of age, for two years had had attacks of vomiting without apparent cause. Vomiting came at any time and was preceded by cramp-like pain. At no time was the vomiting indicative of retention. The patient had lost 23 pounds (10.4 kg.). Total gastric acidity was 30, all combined. An ulcerating carcinoma at the pylorus was disclosed with the roentgen rays (Fig. 5), and was resected. It measured 8 by 7 by 2 centimeters, and proved to be an ulcerated adenocolloid carcinoma, of Grade 3.

Fig. 5.—Fairly extensive prepyloric carcinoma.

HEMORRHAGE FROM THE ALIMENTARY CANAL

Hemorrhage from the alimentary canal, whether open or occult, is an almost peremptory command

Fig. 6.—Varices in distal half of esophagus.

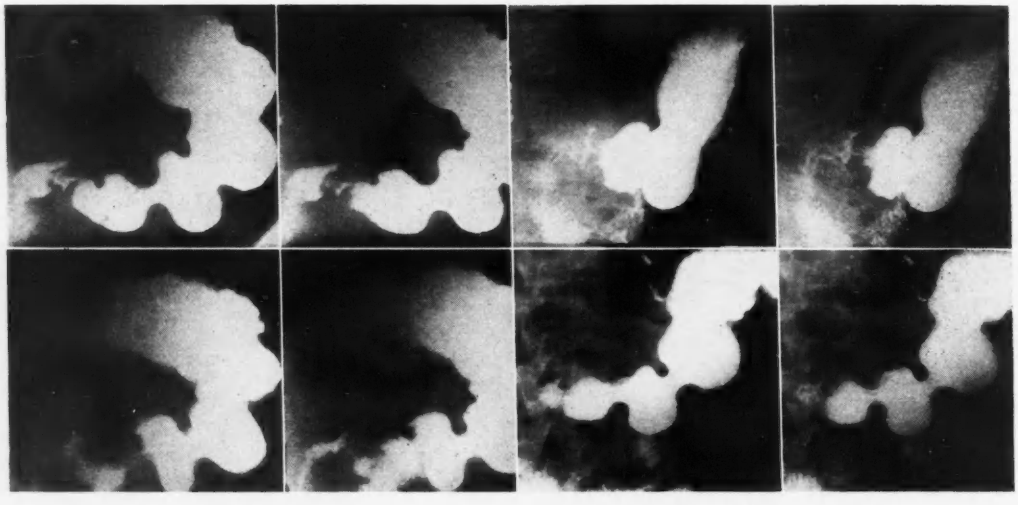

Fig. 7. Fig. 8.

Fig. 7.—Hypertrophy of the pyloric muscle, showing characteristic crevice at middle of elongated pyloric canal and indentation of bulbar base.
Fig. 8.—Duodenitis; the typical mottling of mucosal relief of the bulb may be noted.

for roentgenologic inquiry. The more common sources of bleeding, aside from hemorrhoids, are peptic ulcer and ulcerating carcinoma, but it may also result from esophageal varices or benign new growths of the stomach or bowel, and exact determination of the cause is not often possible without roentgenologic examination.

Case 7.—Three months before coming to the clinic, and again on the day before he came, a physician, aged fifty-two years, had had a series of tarry stools. Although he had had no gastric symptoms, a roentgenologic diagnosis of duodenal ulcer had been made and he had been on an ulcer diet since then. Clinical examination revealed hepatic cirrhosis with splenomegaly and anemia. Roentgenologic examination disclosed extensive varices in the distal half of the esophagus (Fig. 6). The diagnosis was confirmed by esophagoscopy.

* * *

Case 8.—About seven months before registering at the clinic, a woman, seventy-four years old, had become nauseated, vomited blood, and fainted. Diagnosis of bleeding ulcer of the stomach and phlebitis of the left leg had been made, and she had been in a hospital for eight weeks. Clinical examination with

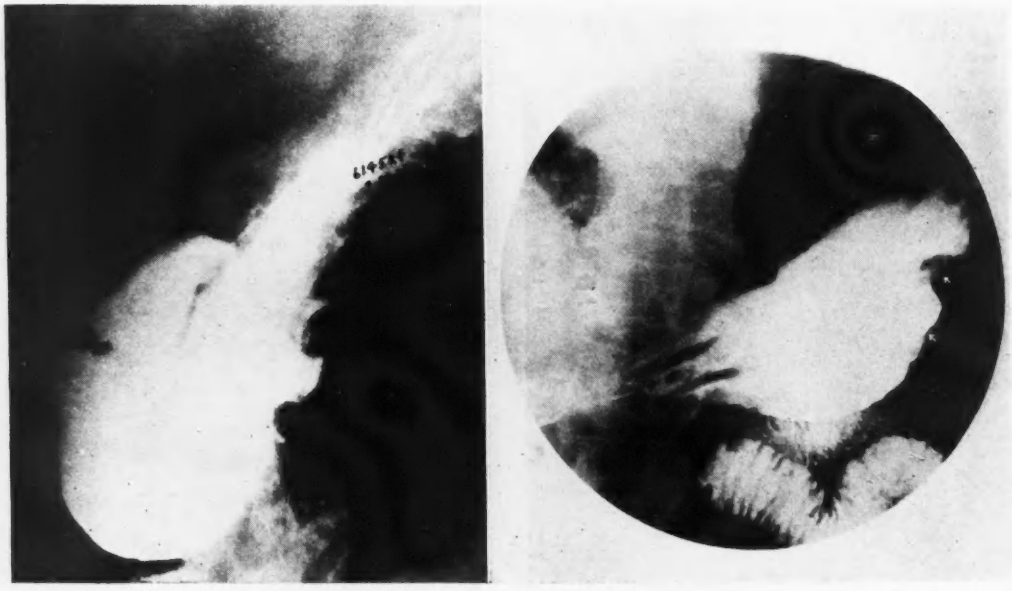

Fig. 9. Fig. 10.

Fig. 9.—Large malignant ulcer on greater curvature; healed duodenal ulcer.
Fig. 10.—Ulcerating malignant lesion high on greater curvature.

respect to the hematemesis was essentially negative. By roentgenologic examination a probably benign, polypoid tumor on the posterior wall of the cardia was found. In view of the patient's age and her present residence in Rochester, further developments will be awaited before operation is attempted.

EPIGASTRIC PAIN

Epigastric pain or distress definitely related to taking food is so often indicative of peptic ulcer or cholecystic disease that it will be given due heed, and roentgenologic aid will be demanded. But often the discomfort is atypical, and the existence of an organic affection of the stomach or duodenum seems so improbable that employment of roentgen rays is likely to be rejected, although it may be the most facile method of solving the problem.

Case 9.—For two years a woman, fifty-five years old, had had epigastric distress, which came on about fifteen minutes after meals. The clinical history with relation to this distress was otherwise negative. Roentgenologic examination disclosed a small concentric prepyloric defect, which was believed to be due to hypertrophy of the pyloric muscle. At operation, pyloric hypertrophy was found and removed by pylorectomy, Billroth I. The diagnosis was confirmed by the pathologist.

In this connection it may be noted that a confident roentgenologic diagnosis of pyloric hypertrophy can now be made in most cases. Heretofore, distinction of this affection from early prepyloric carcinoma, gastric syphilis, and prepyloric ulcer with spasm was seldom possible, for the prepyloric deformity was often quite similar in all four conditions. Lately, however, it has been learned that pyloric hypertrophy has two differential characteristics, namely, concave or conical indentation of the bulbar base, and a crevice on either or both borders of the elongated pyloric canal near its middle point (Fig. 7). Both these marks have been shown to have an anatomic basis, and as a rule are lacking in the other diseases mentioned.

Case 10.—Belching and abdominal distention immediately after meals over a period of three months was the principal complaint of a man thirty-four years of age. The total gastric acidity was 80; free acidity, 68. An unqualified roentgenologic diagnosis of diffuse duodenitis was made.

DUODENITIS

Duodenitis is a localized or diffuse inflammation with leukocytic infiltration, edematous thickening, and multiple shallow erosions of the mucosa, but without definite craters. It is sometimes associated with crateriform ulcer, but often occurs independently. The symptoms of duodenitis are similar to those of frank ulcer. Roentgenologically, duodenitis is characterized by extreme irritability and rapidly changing form of the bulb, and by a coarsely-reticular mucosal pattern (Fig. 8).

OTHER VAGUE SYMPTOMS

Most puzzling of all are the slight and indefinite or inconsistent abdominal symptoms described by so many patients. It is true that a large majority of such persons have no discoverable pathologic foundation for their complaints, but in occasional instances, as the clinician is well aware, the symptoms arise from lesions of the stomach or duodenum. To select from the whole group those patients who are more likely to have such lesions is exceedingly difficult, and the clinician is obliged to rely largely on his intuition and individual experience. As a rule, however, the patient will be served best by giving him the benefit of every reasonable doubt and subjecting him to the roentgenologic test if circumstances permit.

Case 11.—A man, aged thirty-eight years, sales-manager for a company manufacturing automobiles, came to the clinic for the annual examination required of executives in his company. His history several years ago had been typical of peptic ulcer, but in recent years he had had only mild, indefinite, intermittent epigastric distress, which had come on when his stomach was empty; this had sometimes been relieved by taking food, sometimes not. He attributed this distress to the necessary drinking of intoxicants in making social and business contacts. Roentgenologic examination disclosed a large, perforated, malignant ulcer on the posterior wall of the stomach, near the greater curvature, and also an ancient duodenal ulcer (Fig. 9). Both diagnoses were confirmed at operation. The pathologist reported that the lesion was an ulcerating carcinoma, which measured 6 by 5 by 2 centimeters, of Grade 3. After four years the patient is still living, and is able to carry on his responsible duties.

Case 12.—A man, aged fifty-four years, executive of an oil company, came for general examination because, as he phrased it, he felt that he was slipping. Seven years previously he had had an aching distress in the epigastrium, which was attributed to colitis by his physician, and which shortly disappeared. Five months previously he noted an aching and sense of distention in the epigastrium, usually before meals and without nausea or vomiting. A roentgenologic diagnosis of a lesion at the pylorus had been made in Mexico. The total gastric acidity was 42; free acidity, 30. Examination with roentgen rays disclosed an ulcerating carcinoma high on the greater curvature of the stomach, and a duodenal ulcer which probably was not active (Fig. 10). In view of the paucity of symptoms, the clinical consultant was doubtful of the roentgenologic diagnosis, and requested reëxamination of the patient. This was carried out and the diagnosis was maintained. At operation, a new growth, 6 by 8 centimeters, on the greater curvature, was removed by resection of the Polya type. Pathologically, the tumor was an ulcerating carcinoma, graded 3 as to malignancy; the lymph nodes were not involved.

IN CONCLUSION

My object has been to emphasize the value of roentgenologic investigation, not merely when there are striking clinical marks of gastric or duodenal disease, but more especially when the symptoms are indecisive, apparently insignificant, or plausibly attributable to disorders unrelated to the digestive tract. This does not imply that the symptoms and signs mentioned are consistently indicative of organic disease, for the contrary is true; and if all patients having such manifestations are sent for roentgenologic study, the clinician must expect a large majority of negative reports. But it is also certain that unless these and other signals for the examination are heeded, many lesions will not be discovered, and it is equally certain that gastroduodenal disease can seldom be excluded definitely without the aid of roentgen rays.

The Mayo Clinic.

UROLOGIC PATHOLOGY*†

ITS INCIDENCE AS FOUND IN ONE THOUSAND CONSECUTIVE AUTOPSIES AT THE LOS ANGELES GENERAL HOSPITAL IN 1933

By GEORGE F. SCHENCK, M.D.
Los Angeles

THE purpose of this study of one thousand consecutive autopsies was to determine the incidence of urologic pathology that occurred. An effort will be made to illustrate the comparative importance of the diseases of the genito-urinary tract, and to show their frequent and intimate association with other diseases. The subject presents many and varied circumstances that necessitate the use of graphic illustrations and tables for their presentation. (Charts 1, 2, 3, 4, 5.)

UROLOGICAL DISEASES AND THEIR ETIOLOGY

The ensuing tables will include the urological diseases and the etiological factors that occurred in the kidneys, ureters, bladder neck, urethra, and testicles.

METASTATIC INFECTIONS

In 127 cases of metastatic infections, there were found forty-five acute pyemic kidneys. No kidney infections that had a preëxisting hydronephrosis or pyelonephritis were included unless they involved the opposite kidney. The bacteriology of these hematogenous infections was coccoid in forty-one cases, gas bacillus in two, and coccidioides in two. The coccoid lesions were the result of an acute pyemia or septicemia, and the lesions were miliary cortical abscesses, infarcts, and thrombi. The coccidioides were multiple suppurating abscesses involving the entire parenchyma of the kidney. The gas bacillus infections were massive multiple bacterial infarcts with necrosis. The seriousness of these acute infections is attested to by the existence of acute uremia in 35 per cent of the cases. (Table 1.)

The contributing factors included foci of infection involving the ear, nose and throat, chest, cardiovascular system, abdomen, urological diseases, acute infectious diseases, carcinoma, chronic suppurative foci and diabetes. (Table 2.)

HYDRONEPHROSIS

Hydronephrosis was bilateral in forty-two of the fifty-one cases. There were twenty cases (sixteen bilateral), complicated by infection. The bacteriology of these cases was usually due to organisms belonging to the colon group, but approximately one-third of the cases had mixed (coccoid and colon group) infections. The etiology was urinary obstruction in forty-six cases, neurological three, congenital anomalies two, and undetermined in three cases. The urinary obstruction was caused by every type of urological pathology, other than tuberculosis, that exists. When an obstructing lesion involved both ureters or was

* Chairman's address, Urology Section of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13-16, 1935.

† The author wishes to express his thanks to Dr. Newton G. Evans, his colleagues, associates and assistants for the privilege of using the autopsy reports of the department of pathology for compiling the statistics that appear in this paper.

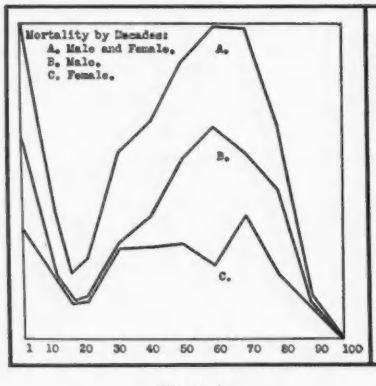

Chart 1

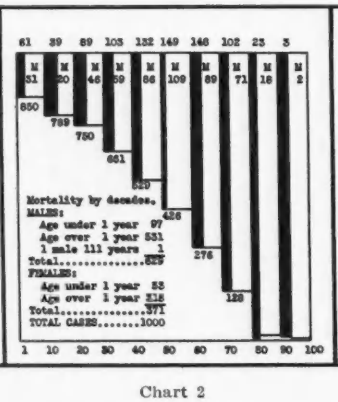

Chart 2

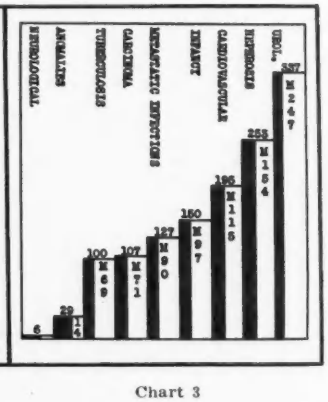

Chart 3

Chart 1.—Line *A* is the general mortality curve for the male and female; *B*, the mortality curve for the male, and *C*, the curve for the female cases reviewed. Including stillborns, there were one hundred and fifty deaths (97 males and 53 females), before the age of one year. The infant mortality exceeds that of any decade subsequent to the age of one year. The peak for the general mortality curve is age 50-60, 149; age 60-70, 148. The male and female curves parallel each other between the ages of ten and thirty-five years, with the all-time low mortality at age fifteen for both sexes. After age 35, there is a rather rapid climb of the male curve that more nearly imitates the ascent of the general curve, with the peak at age 60. On the other hand, the curve for the female has but a slight ascent to age 50, and then there occurs a noticeable decline, in contradistinction to the peak of the male curve. Age 70 is the peak for the female curve.

Chart 2.—Chart 2 represents a graphic illustration of the number that died in each decade as is represented by the figures at the top of the scale, and the figures between the black columns proclaim the number that were males. The figures at the bottom of the column indicate the number remaining at the beginning of that decade. The preponderance of male mortality occurs in every decade, but is particularly disproportionate, ages 40-90 years. The relatively symmetrical progress of the mortality by decades is noteworthy, and suggests that death in a large series of cases is the result of the accumulation of morbid pathological conditions.

Chart 3.—Chart 3 is a graphic tabulation of the principal causes for death that appeared as the anatomical diagnosis. Urology heads the list with 337 cases, followed by nephrosis 253, cardiovascular 195, diseases of infancy 150 (prior to age one year), metastatic infection 127, carcinoma 107, tuberculosis 100. All anomalies and neurological cases, except those that had urological disease, were excluded. Note the marked disproportion between the males and females, especially in urologic diseases (males 247, females 90), nephrosis (males 154, females 99), cardiovascular (males 115, females 80), metastatic infections (males 90, females 30), carcinoma (males 71, females 36), tuberculosis (males 69, females 31).

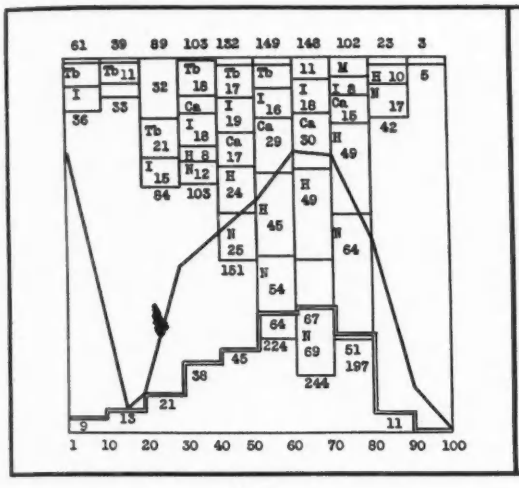

Chart 4

Chart 4.—Chart 4 denotes the mortality by decades at the top of the column, where the major causes for death as found in these autopsies are blocked in with the number that occurred in the corresponding ten-year period. The number below the double line represents the number of urological cases that were found in each decade. The figures at the bottom of each column exhibit the total number of major causes of death as found at autopsy. It is of importance to note that the peak of the mortality curve corresponds to those decades that have the greatest number of major complications, and includes the greatest number of urological cases.

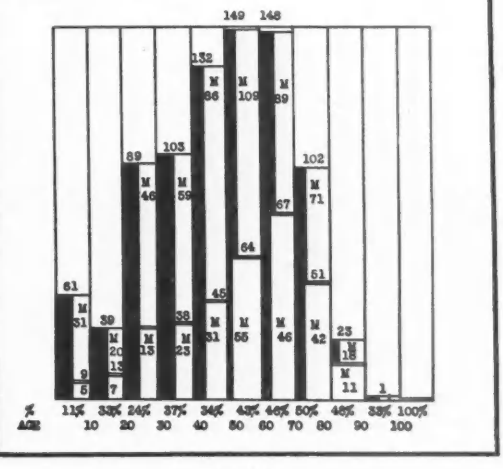

Chart 5

Chart 5.—Chart 5 illustrates the mortality drawn to a scale for all of the major causes of death (including urologic diseases), and focuses attention to the proportion of these cases that had urological pathology. The predominance of the male over the female cases above the double line are exemplified under urology below the double line. The percentage of urological cases is tabulated by decades below the table. Diseases of the genito-urinary tract are unquestionably a strong and important primary and contributing factor in mortality.

infravesicle, there was usually bilateral hydronephrosis. The type of lesion did not materially influence the presence or absence of coexisting infection. (Table 3.)

age of fifty-nine years, and twelve females with an average age of forty-seven. The combined average age was fifty-six.

The principal causes for the occurrence of

TABLE 1.—*Metastatic Infections (127 cases)—Acute Kidney (45 cases)*

Acute Pyemia		*Septicemia*	
Miliary abscess kidney	12	Miliary abscess kidney	16
Septic emboli	0	Septic emboli	0
Septic infarct	3	Septic infarct	11
Thrombus	1	Thrombus	2
Total	16	Total	29
Children: 19 days		Males	90
3 months		Females	37
9 months		Average age	41

PYELONEPHRITIS

Pyelonephritis occurred in forty-one cases and was bilateral in twenty-seven. There was marked dilatation of the kidney pelves and ureters in twenty-six, which was bilateral in twenty-one. There were twenty-nine males with an average

pyelonephritis were urinary obstruction, plus a preëxisting dilatation of the kidney pelves and ureters which produced a urinary stasis that favored a bacterial invasion. The bacteriology was usually colon infection; when present, the coccoid organisms rarely occurred in pure culture. The

TABLE 2.—*Contributing Factors to Acute Kidney*

Cardiovascular	13	Bacterial endocarditis	6	Hypertension heart	3
Diabetes	3				
Urological pathology	12	Prostate	5	Pyelonephritis	2
				Hydronephrosis	5
Cellulitis	4				
E. N. T.	3				
Chest	8	Lung abscess	1	Pneumonia	6
		Empyema	2		
Abdomen	2				
Acute infectious disease	1				
Carcinoma	3				
Chronic suppurative foci	5	Arthritis	2	Pelvic inflammatory disease	1
				Osteomyelitis	2

TABLE 3.—*Hydronephrosis (51 cases)—Bilateral 42, Unilateral 11*

Obstruction	*Hydronephrosis*	*Infected*	*Remarks*
Pelvic ureter	16 bilateral 12	1 bilateral 1	Metastatic ca. and gyn. Pelvic pathology.
Ureteral kinks	1 bilateral 1		
Postoperative hysterectomy	1 bilateral 1		
Ureteral stone	2		
Kidney stone	2 bilateral 1	1	
Obstetrical	1 bilateral 1	1 bilateral 1	History of nephrosis for life.
Congenital anomalies	2 bilateral 2	1	Abscess op. kidney; dup. kidney and ureter.
Cancer of bladder	4 bilateral 4	1 bilateral 1	
Stricture of ureteral orifice	2 bilateral 2	1 bilateral 1	
Leukoplakia	1 bilateral 1	1 bilateral 1	
Bladder neck pathology	13 bilateral 12	8 bilateral 6	
Neurological	3 bilateral 2	2 bilateral 2	One child one month old.
Undetermined	3 bilateral 3	3 bilateral 3	
Total	51 bilateral 42	20 bilateral 16	

Youngest	10 minutes	Bilateral hydronephrosis	42
Oldest	52 years	Unilateral	11
Average age of males	54 years	Infected	20
Average age of females	50 years	Bilateral	16

obstructive lesions consisted of any type of pathology that interfered with the normal flow of urine from the kidney to the external meatus of the urethra. In five cases the etiology was undetermined. (It is probable that if it had been possible to have made antemortem studies of these patients, ptosis, ureteral kinks and angulations of the ureter would have accounted for these cases.) (Table 4.)

TABLE 4.—*Pyelonephritis (41 cases)—Bilateral 27, Unilateral 14*

Obstruction	*Pyelonephritis*	*Infected Hydronephrosis*	*Hydronephrosis opp. Kidney*
Bladder neck	17 bilateral 15	15 bilateral 12	0
Cord bladder	4 bilateral 3	3 bilateral 3	1
Cancer of bladder	3 bilateral 1	2 bilateral 1	1
Ureteral obstruction with metastatic ca.	4 bilateral 1	1	3
Pregnancy	1 bilateral 1	1 bilateral 1	0
Leukoplakia	1 bilateral 1	1 bilateral 1	0
Fibroid	1 bilateral 1	1 bilateral 1	
Pelvic inflam. dis.	1 bilateral 1	1 bilateral 1	0
Tuberculosis	1	0	0
Stones	2 bilateral 1	0	0
Urethral stricture	1 bilateral 1	1 bilateral 1	0
Undetermined	5 bilateral 1	0	Acute miliary abscess opposite kidney, one case
Total	41 bilateral 27	26 bilateral 21	

Males	29	Females	12
Average age	59	Average age	47
Combined average age	56		

PERINEPHRITIC ABSCESS

Perinephritic abscess occurred in ten cases. The condition was secondary to an infection within the abdominal cavity or a pyelonephritis in all cases. One case of bilateral perinephritic abscess was secondary to a bilateral pyelonephritis caused by a stone in the right kidney pelvis and a left ureteral stricture in the upper third of the ureter at the site of a ureterotomy incision for an impacted ureteral stone (operated three years ago).

There were no cases secondary to furunculosis or skin pyemias. Obviously, cases of this type were detected and operated before a fatal termination. (Table 5.)

TABLE 5.—*Perinephritic Abscess (10 cases)*

1. Two secondary to retrocecal appendix and abscess.
2. One carcinoma of cecum with abscess.
3. Six secondary to kidney pathology; usually pyelonephritis.
4. One bilateral secondary to pyelonephritis.
5. No cases secondary to furunculosis or skin pyemias.

OBSTRUCTIVE UROPATHY

Urinary obstruction is a principal factor in the production of kidney damage, and is evidenced by dilatation of that portion of the urinary tract above the obstructive lesion. The obstruction always creates stasis, which invites, perpetuates and encourages the progress of infection within the urinary tract.

TABLE 6.—*Kidney Damage Caused by Bladder-Neck Obstruction*

Adenoma (84): Youngest, 43; oldest, 111. Average age, 66.
- Large, 23:
  - Anatomical evidence of obstruction, 21.
  - Kidney damage, 12; pyelonephritis, 8; bilateral, 5. hydronephrosis, 3; bilateral, 3.
  - Acute miliary cortical abscess, 1 (cardiac).
- Medium, 28:
  - Anatomical evidence of obstruction, 7.
  - Kidney damage, 4; pyelonephritis, 3; bilateral, 2.
  - Thrombosis of renal artery, 1.
- Small, 33:
  - Anatomical evidence of obstruction, 6.
  - Kidney damage, 0; pyelonephritis, 0; hydronephrosis, 0.
  - Bilateral septic infarct, 1 (cardiac).

Carcinoma: (12): Metastasis, 9.
- Anatomical evidence of obstruction, 8.
- Kidney damage, 6; pyelonephritis, 5; bilateral, 5; infarct, 1.
- Metastatic sarcoma, 1.

Contracture (5): Anatomical evidence of obstruction, 6.
- Kidney damage; stone, 1; pyelonephritis, 2; bilateral, 1.
- Diverticulum of bladder, 1.

Tuberculosis (5): No anatomical evidence of obstruction.
- Kidney infection; pyelonephritis, 1; cortical lesion, 1.

Prostatitis: Three prostatitis; no obstruction.

TABLE 7.—*Cord Bladder—Neurological*

Age	*Sex*	*Type*	*Kidney Pathology*		*Bladder*
			Pyelonephritis	*Hydronephrosis*	
Average 56	Male	(6) Tabes	(2) Bilateral 2	1 Bilateral	6 Retention
Average 54	Male	(2) Meningo-vascular	(1) Bilateral 1	0	1 Retention
19	Male	(1) Glioma of cord	(1)	1	1 Incontinence
78	Female	(1) Multiple sclerosis	(0)	0	1 Retention
65	Female	(1) Transverse myelitis	(0)	0	1 Retention
Total		(11)	(4) Bilateral 3	2 Bilateral	9 Retention 1 Incontinence

PROSTATISM

A total of 109 cases of bladder-neck pathology adequately emphasized the importance of prostatism sufficiently to necessitate its consideration in every male patient past the age of forty-five. The various types of lesions found in the bladder neck were, viz.:

ADENOMA OF THE PROSTATE

Adenoma of the prostate, 84; youngest 43, oldest 111; average age, 66. There were 23 large, 28 medium, and 33 small. In all cases that had anatomical evidence of obstruction (trabeculations, cellules, thickened trigone, diverticulum, etc.), regardless of size, there was a high incidence of kidney damage, particularly hydronephrosis and pyelonephritis. The presence of one bilateral acute cortical miliary abscess, one bilateral septic infarct of the kidney, and one thrombosis of the renal artery, extols an added hazard of urological cases, in addition to circulatory disturbances, when complicated by cardiovascular diseases.

CARCINOMA OF THE PROSTATE

Carcinoma of the prostate (twelve) attests to its seriousness as an obstructive lesion by the occurrence of nine cases of evidence of obstruction, complicated by six cases of pyelonephritis and one kidney infarct. One case of metastatic sarcoma did not produce urinary obstruction.

BLADDER-NECK CONTRACTURE

All five cases of bladder-neck contracture revealed anatomical evidence of bladder-neck obstruction that resulted in two cases of pyelonephritis, one kidney stone, and one diverticulum of the bladder.

TABLE 8.—*Urinary Obstruction Caused by Carcinoma*

Location		*Pyelonephritis*	*Hydronephrosis*	*P.A.*	*Metastatic Carcinoma Obstructing*
Appendix	1	(1)	(0)	0	Pelvic ureter
Cecum	2	(1)	(0)	1	Retrocecal abscess
Colon	1	(1) Bilateral	(0)	0	Bilateral pelvic ureter
Sigmoid	1	Miliary cortical abscess	(0)	0	General sepsis
Rectal	5	(1) Left	(2) Bilateral	0	Bilateral pelvic ureter
Ovary	4	(1)	(2) Bilateral	0	Bilateral pelvic ureter
(Kukenberg)	1	(1)	(1)		Bilateral pelvic ureter
Uterus	1	(0)	(0)	0	P. O. supp. hysterectomy
Cervix	6	(2)	(2)	1	Pelvic ureteral obstruction with all metastasis
(Metastasis)	4				
Bladder	9	(2) Bilateral	(2) Bilateral	1	Tumor obstructing ureter
(secondary)		(1) Bilateral cervix	(1) Bilateral cervix	1	Tumor obstructing ureter
Prostates	12	(6) Bilateral 5 (1 Septic infarct)	(0)		Bladder-neck obstruction
Total	50	(18)	(10)	4	

TUBERCULOSIS OF THE PROSTATE

Tuberculosis of the prostate (five) revealed no anatomical evidence of obstruction. One case of tuberculous pyelonephritis was hematogenous in origin.

PROSTATITIS

Three cases of prostatitis; no obstruction. (Table 6.)

TABLE 9.—*Stone in the Kidney or Ureter*

Type		*Location*	*Pyelonephritis*	*Hydronephrosis*	*Remarks*
Staghorn	1	K. P.	(1) Bilateral 1	0	Cystotomy
Multiple	6	K. P.	(4) Bilateral 3	3	Three bladder-neck obstructions
Single	3	K. P.	(1) Bilateral 1	1	One bilateral perinephritic abscess
Ureteral	1	Ureter	(1)	0	One bilateral perinephritic abscess
Total	11		(7) Bilateral 5	4	

Males	7	Youngest	40
Females	4	Oldest	84
Bilateral stone	1	Average age	58

TABLE 10.—*Anomalies of the Urinary Tract (29 cases)*

Type		*Remarks*
Aberrant blood vessels	2	1 Hydronephrosis and one bilateral with blood vessel obstructing upper ureter
Absence of kidney	2	1 Hydronephrosis of kidney
Congenital cysts	8	8 Bilateral
Duplication of kidney and ureter	2	2 Bilateral
Pelvic kidney	2	
Hypoplasia	3	Bilateral 1, pyelonephritis 2, bilateral 1.
		Opposite kidney 1
		Atresia of ureter 1
Hydronephrosis	2	2 Bilateral
		1 ten minutes old
		1 one month old
Horseshoe kidney	3	No pathology
Bilateral polycystic	2	1 Bilateral pyelonephritis
Ectopic	1	
Epispadias	1	
Hypospadias	1	
Youngest	10 minutes	Oldest 75 years
Average age	54 years	

CORD BLADDER—NEUROLOGICAL

Cord bladder was present in eleven cases, and was characterized by retention of urine (nine) and incontinence (one). Hydronephrosis and pyelonephritis were present in four cases. The similarity of the symptoms and pathology to prostatism necessitates a differential diagnosis in all male cases. The condition affects both sexes and has a wide age range. (Table 7.)

TABLE 11.—*Diverticulum of the Bladder*

Bladder-neck obstruction	8	Multiple 3	Single 5
Undetermined (female)	1	1	0
Total	9	4	5
Males	8		
Females	1		
Youngest	51		
Oldest	81		
Average age	62		

TABLE 12.—*Bladder Retention*

Prostatic obstruction	25
General toxemia	15
Cancer of bladder	2
Meningitis	9
Brain tumor	3
Neurological	7
General sepsis	7
Cerebral hemorrhage	4
Stricture of urethra	1
Total	73

URINARY OBSTRUCTION CAUSED BY CARCINOMA

The principal causes for urinary obstruction by carcinoma outside of the urinary tract are due to metastatic lesions in the deep iliac nodes that impinge on or envelop the pelvic ureter. The relatively frequent occurrence of urinary obstruction with all cases of carcinoma that have metastasized, particularly those with primary origin in the gastro-intestinal tract or the female genital organs, necessitates a constant vigilance for its appearance in all cases involving these organs. Malignant bladder tumors, primary or secondary, usually obstruct the ureteral orifice, or are due to contracture of the intramural portion of the ureter or stenosis subsequent to fulguration. (Table 8.)

TABLE 13.—*Metastatic Malignancies of the Kidney*

1. Mixed tumor of the parotid, with metastatic lesions involving the cortex of one kidney with both testicles.
2. Squamous cell carcinoma of the esophagus, with bilateral metastatic lesions of the cortex of the kidneys.
3. Myeloma of the femur, with bilateral metastatic involvement of the cortex of the kidneys.
4. Squamous cell carcinoma of the breast, with metastatic involvement of the cortex of one kidney.
5. Adenocarcinoma of the rectum, with bilateral metastatic lesions of the cortex of both kidneys.
6. Embryonic carcinoma of the testicle, with bilateral thrombosis of both renal veins with metastatic tumor.
7. Retroperitoneal sarcoma involving the hilus of both kidneys, but not invading the kidney substance.

TABLE 14.—*Malignancies of the Testicle*

1. Embryonal carcinoma of the testicle, with metastasis involving the abdominal aorta, vena cava and both renal veins (age 32).
2. Seminoma of the testicle; small and no symptoms (age 84).
3. Bilateral metastatic mixed tumor involving both testicles, and the cortex of one kidney. The primary tumor was in the parotid gland (age 43).

TABLE 15.—*Tuberculosis of the Genito-Urinary Organs*

Tuberculosis 100. Genito-Urinary 34. Kidneys 29.

Miliary	7	(7) Bilateral 6	1 Opposite kidney tubercular pyelonephritis
Tuberculous	20	(20) Bilateral 11	1 Tubercular prostate
Pyelonephritis	2	(2) Bilateral 0	1 Opposite miliary tuberculosis
Total	29		
Tuberculous prostate	3		1 Bilateral epididymitis and vesiculitis
Tuberculous abscess of prostate	1		
Tuberculous epididymis	2		1 Prostatitis and vesiculitis
Total	34		

STONE IN THE KIDNEY OR URETER

Stone in the kidney or ureter was present in but eleven cases. There were no bladder stones. The damage from the presence of a stone was evidenced by the occurrence of a pyelonephritis or hydronephrosis in seven cases, and the lesions were bilateral in six. The sex consisted of seven males and four females. The youngest was forty years and the oldest, eighty-four. Average age was fifty-eight. Bilateral stone was present in one case. (Table 9.)

ANOMALIES OF THE URINARY TRACT

Anomalies of the urinary tract consisted of a total of twenty-nine cases and all involved the kidneys. Hydronephrosis and pyelonephritis occurred in four cases (bilateral, three), and there was a hydronephrosis of the opposite kidney in one hypoplasia. There were three horseshoe kidneys, viz., one stillborn, one woman (age fifty), and one male (age seventy-four). Apparently, all the horseshoe kidneys were free from pathology and had functioned normally. The youngest living was ten minutes, and the oldest was seventy-four. The average age was fifty-four years. (Table 10.)

STRICTURE OF THE URETHRA

There was one case of impassable stricture of the bulbous urethra. The complications were urinary extravasation, perineal abscess and bilateral infected hydronephrosis. An emergency suprapubic cystotomy and drainage of the perineal abscess was done. The patient died of uremia on the eighth postoperative day.

DIVERTICULUM OF THE BLADDER

There were a total of nine cases of diverticulum of the bladder. This condition is usually associated with bladder-neck pathology or urethral stricture, but may be of congenital origin. Their recognition is important because they are always a source of urinary stasis and infection in all cases that do not empty. (Table 11.)

BLADDER RETENTION

The purpose of calling attention to bladder retention of urine is because of its seriousness, frequent incidence, and the many and varied causes for its occurrence. There was a total of seventy-three cases. Extremes of age were five days and eighty-one years; average age was forty-nine years. (Table 12.)

CARCINOMA OF THE KIDNEY

There was a total of seven cases (male, six; female, one). Strange to state, but true, there were no primary malignancies of the kidney. There were, however, six most unusual metastatic lesions of the kidney, and one involvement of the hilus. (Table 13.)

MALIGNANCIES OF THE TESTICLE

There were two primary and one secondary cases of malignancy of the testicle. (Table 14.)

Hydroceles and similar minor lesions will not be tabulated because they do not affect mortality.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS

In a total of one hundred cases of active tuberculosis, there occurred thirty-four cases of genito-urinary infection that included twenty-nine kidneys (twenty-seven acute and two pyelonephritis), three prostates and vesicles and two epididymis. There was but one case of genital tuberculosis that had renal involvement. The acute lesions were of the miliary type, and represented an extension of a similar general condition. The lesions were characteristically bilateral. The two cases of pyelonephritis were unilateral. The youngest was seven months old, and the oldest seventy years; the average age was thirty-four years. There were sixty-nine males and thirty-one females. (Table 15.)

1930 Wilshire Boulevard.

ANESTHESIA IN INFANT SURGERY*

By MARY E. BOTSFORD, M.D.
San Francisco

DISCUSSION *by Alanson Weeks, M.D., and G. D. Delprat, M.D., San Francisco; C. F. Gelston, M.D., San Francisco; Caroline B. Palmer, M.D., San Francisco.*

THE comparative safety of surgical procedures in infants is without doubt lowering the death rate for this class of patients, a result due in part to the advances made in the past few years in the science of anesthesiology. Many necessary operations, which formerly were not done at all or performed without anesthesia because of its presumed danger, are now undertaken confidently under general anesthesia.

ANESTHESIA IN PYLORIC STENOSIS

The most frequent condition necessitating operation in infants under a month old is pyloric stenosis. Stanley Stillman, twenty-six years ago, treated these cases exclusively by gastro-enterostomy and in reporting a series said:

"Infants, particularly in the first six weeks of their lives, are well able to stand surgical operations and anesthetics, and are as tenacious of life, as far as shock is concerned, as at any other time of their lives, provided certain precautions are observed, and these are that their vitality shall not have been lowered by starvation and their body heat shall not have been lowered by exposure during operation."

To these precautions might be added certain other factors making for safety in these small patients, which are—as light anesthesia as is consistent with the needs of the surgeon and a short duration of the anesthesia.

Ninety-six cases of children under two months, anesthetized without a fatality for operations for the relief of pyloric stenosis, intestinal intussusception, herniae into umbilical cord and cleft lip and palate, bear out this statement. The youngest patient was five hours old and the operation, the surgical reduction of an umbilical hernia of practically all of the small intestines. The surgeon in the case, Alanson Weeks, who first substituted

* Read before the Anesthesiology Section of the California Medical Association, at the sixty-fourth annual session, Yosemite National Park, May 13–16, 1935.

for gastro-enterostomy here the rapid Fredet method, and has performed it one hundred and eleven times, credits the anesthesia with some of its success.

ETHER THE ANESTHETIC OF CHOICE IN YOUNG CHILDREN

In the absence of a definite contraindication, such as respiratory or renal dysfunction, ether is the anesthetic of choice in infants and very young children. No arbitrary age limit can be made for the use of nitrous oxid-oxygen anesthesia, and authorities differ as to its safety in infants. Induction with nitrous oxid may be done at the age of one month. A Fredet operation in a seven weeks' old child, in the presence of a respiratory infection and otitis media, was done under nitrous oxid-oxygen anesthesia with no untoward results.

ANESTHETICS FROM THE CRITERION OF SAFETY

A consideration of the various anesthetic agents, from the criterion of safety, would seem to limit all but ether and nitrous oxid.

Spinal and local anesthetics are contraindicated in young children. Apart from psychic complexes produced by fear, which frequently follow their use, there is the congestion of pharyngeal mucous membrane, the excessive production of tears, mucus and saliva, caused by crying, with overventilation of the lungs and its consequent train of evils —reduction of carbon dioxid, acapnia and apnea. A further danger is the possibility of aspiration of the secretions into the lungs.

Induction in nervous and irritable children may be done with the child in the arms of the nurse as, in addition to the excessive secretion caused by crying, the sobbing respiration frequently persists and necessitates a deeper degree of anesthesia to obtain the proper diaphragmatic immobility.

Tribromethanol is of great value in brain surgery, but as children must be given approximately larger doses than adults, and as it is contraindicated in the presence of liver and kidney pathology, it must be used with caution.

Chloroform, used almost exclusively for infants until the discovery of its deleterious action upon the liver, cardiac depression and postoperative acidosis, has been almost entirely discontinued, not only in children but in adults.

Ethyl chlorid, because of its accumulative effect —after stopping administration the anesthesia continues to deepen for a few minutes—makes it unsafe for operations lasting more than a few minutes.

The best results in the anesthetization of infants and young children depend upon proper induction. The psychic damage of fear is never more pronounced than in these patients. The practice of permitting a child, old enough to be aware of his surroundings, to be brought to the surgery until everything is in readiness for the induction, cannot be too strongly condemned.

Cleft lip and palate operations are frequently done on infants, especially repair of the lip, which is frequently performed in the first twenty-four hours.

Status lymphaticus, so named by Paltauf in 1889, was formerly thought to cause fatalities during anesthesia, by mechanical pressure upon the trachea and veins of the neck, by the enlarged thymus. The theory of Kemp is that status lymphaticus is a dysfunction of the adrenal cortex, which is more likely to occur in the presence of thyroid dysfunction, and that the enlargement of the thymus is secondary to thyroid-adrenal dysfunction.

DIFFERENCE OF ANESTHESIA IN CHILDREN AND ADULTS

The chief point of difference in anesthetizing children and adults is the unstable and irregular respiration of the former. This is recognized as the greatest danger with chloroform, as one delayed and deep inspiration may be sufficient for an overdose.

Stewart, in "Surgical Diseases of Children," says:

> "Perhaps the feebler development of the respiratory as compared with the circulatory systems in children, alters the effects of anesthesia, as compared with adults. Semi-anesthesia is admissible in infants and there seems to be less danger from reflex irritation while in this stage than in adults."

Because of the small tidal volume of a baby's respiration, the open drop method is unsatisfactory; also the temperature of the aspirated air is lowered when the ether is vaporized on a mask. DeForest Willard says:

> "When it is recalled that the surface of the air vesicles is far greater than that of the body's surface, the chilling effect of ether can be well recognized."

The semi-closed method is preferable to the open drop method, as it not only prevents refrigeration but preserves the carbon dioxid necessary to maintain the pH of the blood. Some of the mechanisms which are used for suction and insufflation are regulated rather for the suction requirements than the air delivery, and it is undoubtedly true that aspiration may be caused by too high pressure. As between the motor- and foot-driven insufflation apparatus, the small foot bellows has several points of superiority, such as noiselessness (mostly the motors are loud enough to drown the respiratory sounds), a pressure low enough to merely deliver the vapor into the mouth cavity, which is all that it should do, and the ease of regulating air pressure without withdrawing attention from the patient. The danger of the motor-driven apparatus may be obviated by standardizing the pressure. A proper ratio of the volume of air, not over 20 litres per minute, with a pressure of 30 millimeters of mercury, is sufficient.

The best results are obtained by means of air or oxygen with one of the various types of insufflation apparatus used for oral surgery—the one designed by Caroline Palmer, in which oxygen is used instead of air, as the vehicle for vaporizing the ether, is excellent.

The opportunities of anesthetizing a series of some fifty infants under seven weeks (the majority being between one and four weeks old), for conditions such as pyloroplasties, herniae, abdominal sections, suggested, because of the apparent

safety in producing anesthesia in these very young subjects, the possibility of still further reducing the age limit for nitrous oxid and oxygen, which I have, heretofore, held at about eighteen months.

A premature infant, four days old, weighing three and a half pounds, was operated for volvulus; the child was anesthetized with ether and oxygen for thirty minutes, without ill effect and made an uneventful recovery.

A cystoscopy with catheterization of ureters in a six months' infant with a pyelitis offered an opportunity for experimentation with gas, justified by a contraindication for ether. For an hour and twenty minutes, a state of analgesia was maintained, evidenced by sucking movements of the lips on a bit of gauze, crooning and active eyelid reflex. Two days later the cystoscopy was repeated for forty minutes, the same condition being maintained. The success of this experiment, with no ill results from the anesthetic, led to the use of nitrous oxid in all cases over six months, where ether was contraindicated, such as renal or pulmonary complications, septic conditions and mastoidectomies.

NITROUS OXID AND OXYGEN ANESTHESIA

Covering a period of two years, among thirty cases under four years of age, operated with nitrous oxid and oxygen anesthesia, for periods of a few minutes to an hour and forty minutes, a few are illustrative of the advantages of this method:

Mastoidectomies in infants of seven and nine months each.

Double mastoidectomy in an eleven months' baby.

Three mastoid operations on a fourteen months' baby, with sinus thrombosis, and ligation of jugular, within a period of a month.

Six cystoscopies in children under five years; in one case, repeated four times in a period of five weeks.

Nitrous oxid is the anesthesic of choice for mastoidectomies as, in a large percentage of cases, these are performed in the presence of some acute pharyngeal condition, contraindicating ether. Except during the periods of initial incision and closure, analgesia is all that is necessary.

A cystoscopy usually presupposes some kidney or bladder pathology; here also ether should not be used and the lightest anesthesia suffices after the introduction of the cystoscope.

The treatment of asphyxia in cesarean babies should be supervised by the anesthetist, and after ascertaining if there be any obstruction to respiration, carbon dioxid 5 per cent with oxygen 95 per cent, as recommended by Yandell Henderson, is usually sufficient to overcome the asphyxia. As in all cases of respiratory arrest time is an important factor, the success of any method being in inverse ratio to the time elapsed before its application. Premedication, preferably with one of the barbiturates in careful dosage, aids greatly in the safe anesthetization of older children but is contraindicated in babies under two years.

SUMMARY

The anesthetization of infants from birth onward may be safely done provided that bodily heat be conserved during and after operation; that ether, when not contraindicated by respiratory or renal dysfunction, be vaporized at a distance of at least 18 inches—which insures its being delivered at room temperature—and that the degree of anesthesia be as light as consistent with the needs of the surgeon.

807 Francisco Street.

DISCUSSION

ALANSON WEEKS, M. D., and G. D. DELPRAT, M. D. (384 Post Street, San Francisco).—It seems a presumption on our part to attempt to discuss anything Doctor Botsford says in connection with anesthesia.

One of us has worked with her for thirty years. She has given anesthetics to most of the doctors' families in San Francisco; which means, she passed a severe test as a safe anesthetist among the professional people who should know enough to pick the best. She has trained anesthetists from all parts of the world. She has induced general anesthesia for us in at least a hundred babies suffering from congenital pyloric stenosis, without a single death as a result of such anesthesia.

We are glad to see that she still allows us to use ether in babies, even though she so strongly favors nitrous oxid and oxygen. We have insisted for years that good relaxation in abdominal surgery gives the operator a better chance to handle his tissues gently. Even though light anesthesia may be a little safer, the necessary abuse of tissue is altogether too great because of the lack of relaxation. It has been perfectly possible for us to do abdominal operations on babies under local anesthesia and with insufficient relaxation, but the time necessary under such circumstances to replace an omentum, which eternally fights to get as far out of an open abdomen as possible, will do more harm to the babies than will a little more of a less safe anesthetic agent.

We have insisted that the anesthetist was the most important member of the team doing abdominal surgery on patients of any age.

*

C. F. GELSTON, M. D. (Children's Hospital, San Francisco).—It has been my privilege for twenty years to rely upon the author's judgment in the matter of type of anesthetic and its mode of administration in infants and children requiring operative procedures. The conservatism she advocates, combined with a studied judgment of each individual patient both as to history and physical findings, serve to give practitioners an absolute confidence and a minimal mortality. The criteria of safety in dealing with this very important problem in pediatric practice, as outlined by the author, should appeal to all physicians.

*

CAROLINE B. PALMER, M. D. (2904 California Street, San Francisco).—This paper is of real value to surgeons and anesthetists alike. The fact that the statements made are the outcome of many years of experience and intelligent observation adds authority to statements and conclusions. The author has done much for the development of safe anesthesia.

Every point brought out is of the utmost importance, making it useless to enumerate them. I can but endorse the paper as a whole.

"THE CORONER'S SYSTEM"

By Jesse L. Carr, M.D.
San Francisco

I

BY the report of the National Research Council in 1928, the coroner's system was indicted in the United States. At this time, after an apparently unbiased investigation of the relative merits of the coroner and the medical examiner, the coroner's system was condemned without qualification, and its abolition was advised. This condemnation proceeding was instituted after first considering the inadequacies and evils of the coroner's plan, following which these were compared with the apparent benefits of administration by a medical examiner in the centers where such changes had been made. At that time the main objections to the general system were two: First, the office of the coroner was elective, although he decided no questions of public policy, and the office could easily be made a site of political intrigue. Second, although instituted in the reign of Henry IV during the early part of 1194, it had not kept pace with the advance of medicine generally, but was still resting on the archaic foundation originally constructed, and operating with a senescence in keeping with its age. The report visualized the coroner as frequently a poorly paid, untrained and unskilled politician who, popularly elected for a short time, often held office with a small, mediocre staff, working in inhospitable surroundings, with wholly inadequate equipment. The report further specifically enumerated the evils and weaknesses of the coroner's office in San Francisco at that time, the objections being in the order of undesirability:

1. That the coroner's office was elective.
2. That, although the morgue was modern and adequate for gross pathology, there were no facilities for microscopical or bacteriological work.
3. That no file for scientific reference was kept.
4. That microscopic work done outside for the office was accepted by the coroner's pathologist only if it pleased him.
5. That no use was made of the vast amount of teaching material available.
6. That the coöperation between the coroner and the legal and prosecuting staffs of the city was poor, and that cases were frequently neglected because of the trouble necessary in collecting facts for their prosecution.

RECENT ARTICLES ON THE SUBJECT

More recently, many articles * have appeared from the pens of those who are aware of an old situation. They complain of the system in various modern rearrangements of the old theme, and suggest that it is time for the people to awaken and do something about it.

As advised by many, the coroner's office can be abolished by statute and a medical examiner substituted; the inference being that such a medical examiner will be capable of conducting an able pathological and medico-legal study. This substitution will indeed solve many difficulties if it can be done simply, but changing statutes is a long and tedious process and the supply of good medical examiners is limited. There is obviously no benefit in substituting a poor medical examiner for a coroner, good or bad.

The other alternative is to place in the office of coroner such an individual as one would select for medical examiner, and one who can develop the office to its necessary capacity.

Doctors have been and will again be elected to this office without changing statutes or losing caste. They will not at first be either entirely qualified or efficient, but the improvement over the quality of ignorance and opacity presiding in these offices at present would be considerable. It is the old problem of evolution versus revolution; and, certainly, with the vote of the sovereign people, intelligent doctors in their counties can begin the evolution of adequate medical-examining individuals or boards by use of the popular vote.

THE CORONER'S OFFICE OF THE CITY AND COUNTY OF SAN FRANCISCO

Many of these social and political changes have already occurred in the city and county of San Francisco. Because of this, and with the knowledge that things happening here can occur elsewhere, the development and progression of the coroner's office is detailed below; not necessarily as a model, but as an example of possibility.

During the past six years the San Francisco coroner's office has had an opportunity either to prove the committee's original contention by a haphazard and mediocre continuation of the old-time coroner's system or to demonstrate that, with proper changes, even the old system could be made efficient. It is interesting now, in retrospect, to compare the committee's criticisms and advices with the subsequent changes in régime and to measure the composite of this development with the structure of the medical examiners' systems operating in several large eastern cities.

A year after the committee report in January, 1929, a grant from the city established the laboratory of microscopic and cellular pathology and bacteriology at the city morgue. A technician was provided and a supervising pathologist was placed in charge of the pathology on part-time basis. Shortly after this appointment the files of the office were revised and microscopic reports were incorporated in the protocol. These were accepted without qualification by the autopsy surgeon and read to the coroner's jury as part of the evidence. They were refiled with the complete protocol.

In 1932 the city of San Francisco, after several years of study adopted a new charter, under the

* Editor Note.—One of the articles to which Doctor Carr refers was the editorial, printed on page 340 of the November, 1934, issue of California and Western Medicine, in which attention was called to the excellent "Coroner's System" exhibit of the Institute of Medicine of Chicago at the Century of Progress Exposition. On page 356 of the same number, a leaflet put out by the Institute was reprinted.

In order to present both sides of the question, a proof of Doctor Carr's article was sent to Dr. Oscar T. Schultz, chairman of the Committee on Medico-legal Problems of the Institute; and his comments, which follow on page 275, are printed as Part II of this discussion of "The Coroner's System," his paper being captioned: "Why the Medical Examiner Instead of the Coroner?"

provision of which the coroner's office was removed from election by popular vote and made appointive; the choice being made by the chief administrator's office, with the approval of the Board of Supervisors, recall being accomplished by the same sequence following conviction by open trial.

Under an arrangement with the University of California, much of the valuable material from the city morgue was taken to the University of California Museum, where it was mounted. On January 1, 1933, by further correlation with the University of California, utilization of the coroner's material for clinicopathological teaching began, and since that time clinicopathological conferences have been held at the San Francisco City and County Hospital, Mount Zion Hospital, French Hospital, and the University of California Hospital on cases previously seen in these institutions and subsequently autopsied at the coroner's office. This correlation of clinical and autopsy material has been of infinite benefit not only to students, but to the attending staffs of these hospitals, and has enabled the coroner's office to augment the protocols of these cases with complete clinical records.

In June, 1933, the city and county built and equipped for the coroner's department a museum room at the city morgue, for preservation of suitable material as evidence, and for the use and education of the office and its staff. In August, 1933, a complete Leica system was installed for routine photography, and a Bausch & Lomb bullet-comparison and hair-comparison microscope was purchased for use in the study of criminal cases. A dark room was built in the laboratory, with the usual developing and enlarging equipment set up in this space. The photographic material is filed numerically with the gross and microscopic findings.

By evolution in the six years just past, the coroner's system in San Francisco has become a singular example of the medico-legal phase of administration in city government. The coroner holds office by the same virtue that a medical examiner is appointed. He has the same power, except that his opinions are balanced by jury. Diagnosis rests not alone with the autopsy surgeon, but with the pathologist who checks the work done at the autopsy table, and the consulting chemist, who analyzes the organs. Through association with both the State University and the City Hospital, the coroner's material is used for teaching; and by this connection the coroner has the privilege of calling any of the staff of the University of California Pathological Department into consultation. The toxicologist remains unchanged and his work uncriticized.

SUGGESTIVE VALUE OF THE CHANGES MADE IN SAN FRANCISCO

The foregoing is offered, it must be realized, not as defense of an office, but rather as an invitation to the medical profession throughout the State to observe the changes and advantages possible under an operating coroner's system. That such changes can occur with even greater facility outside of San Francisco than they have here should go without saying; but that these changes must be effected by the medical profession, both in the nomination of proper individuals to hold the position of coroner and in the appointment of adequately trained autopsy surgeons, is essential. At the present time the shift of the coroner's system to a medical-examining system in practically any county of California would result in no improvement of conditions, and possibly contribute to a state less desirable than that which now exists. The reason for this is, of course, that there are few adequately trained medico-legal investigators in the profession. We see this tragic ignorance manifest frequently in autopsies which are performed by physicians at the request of county coroners throughout the country. To handle the situation there must be members of each county group who have, at least, the fundamental training requisite to doing an intelligent pathological study on the human body; and they must add to this knowledge certain essential points in the detection and conviction of crime. Facilities for such education are at hand. The need is imminent, and the personnel certainly must be available.

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WHY THE MEDICAL EXAMINER, INSTEAD OF THE CORONER?

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II

DR. CARR'S opening sentence refers to a study made for the Committee on Medicolegal Problems of the National Research Council, the results of which study were published in 1928.[1] In 1932 there appeared the results of a further study[2] undertaken for the same committee of the National Research Council. The later study reviewed again the problem presented by the coroner's office in the United States, chiefly from the standpoints of how the work done by this office fits into the general field of legal medicine in this country, and how legal medicine should and might be developed.

In the discussion of possible future developments, attention was called to the fertile and promising field presented in certain states through the state university. A statement (pp. 73-76) by the president of the University of California re-

* From the office of the chairman of the Committee on Medicolegal Problems of the Institute of Medicine of Chicago.

† Editor's Note.—This is a companion article to Dr. Jesse L. Carr's paper on "The Coroner's System," printed on page 274.
See also letter from Doctor Schultz, printed in this issue, on page 317.

1 Schultz, Oscar T., and Morgan, E. M.: The Coroner and the Medical Examiner. With a Supplement on Medical Testimony by E. M. Morgan. Bull. No. 64, National Research Council, Washington, D. C., 1928.

2 Schultz, Oscar T.: Possibilities and Need for Development of Legal Medicine in the United States: With a Supplement on University Departments in the Field of Criminology. Bull. No. 87, National Research Council, Washington, D. C., 1932.

vealed a deep insight into the problems of legal medicine as they affect the people at large, and a broad vision of how these problems might be met through the University of California. In my discussion of the outlook in California I noted the change that had been made in the selection and tenure of office of coroner brought about by the new charter of San Francisco County. Furthermore, looking into the future, I wrote as follows (p. 76): "A coroner, freed of political alliances and entanglements, and serving for life or during good behavior, has presented to himself the opportunity of making of his office an efficient agency in the administration of justice. If he conducts his office in the proper coöperative spirit, he will find already organized in the medical schools of his community, and always ready to serve him, a type of scientific service that an elective coroner would find it difficult or impossible to duplicate. The change brought about by the new charter of San Francisco County should make the coroner's office an important factor in the developments that the president of the University of California has outlined."

PRESENT STATUS OF CORONER'S OFFICE IN SAN FRANCISCO

From what Doctor Carr has written about the present status of the coroner's office in San Francisco, it would appear that the prophecy made relative to that office has in large measure been borne out. Every physician and every nonmedical person interested in a better application of medical science in the administration of justice will applaud the good work done.

The prime factor in the better functioning of the office of coroner of San Francisco has undoubtedly been the removal of the office from the field of elective politics. This makes for continuity of service, increasing experience with each year of service, constructive development of the office, and better work in the interests of the public. More liberal financial support, which has made possible histopathologic, bacteriologic and toxicologic work and apparatus for other forms of medicolegal investigation, has been an important factor. But this, too, has its root in the fact that an appointive coroner can devote his thought and attention to improvement of the work of his office rather than to a political campaign for election or reëlection. If every coroner's office in the country could be placed on the same basis as that of San Francisco, there would be little need to urge abolition of the office, although there are still some fundamental features, that will be discussed in a moment, which make the medical examiner system preferable to the coroner system. Complete reform of the latter requires more than making the coroner an appointive official.

INDICTMENT OF THE CORONER'S SYSTEM

In his opening reference to the National Research Council's 1928 report, Doctor Carr says that "the coroner's system was indicted in the United States." In the isolated instance of San Francisco the indictment may be quashed, but in practically every other jurisdiction it will have to stand. Great improvement has been made in the functioning of the office of coroner of Hamilton County (Cincinnati), Ohio. This was done by electing a physician who was not a politician, and who did not seek the office; by his appointment of a competent coroner's pathologist under a statute that provides for such an official in the two largest counties of the state; by correlating the work of the office with that of the medical school of the University of Cincinnati, and by designating the well-equipped morgue of the Cincinnati General Hospital the official coroner's morgue. But the coroner of Hamilton County is still an elective official, and the incumbent of the office cannot much longer be expected to sacrifice his professional career for an obscure office from which he may be ousted by a petty politician in a political campaign. The coroner of Hamilton County, as the result of his experience, is a strong proponent of the medical examiner system. Outside San Francisco and Cincinnati, what has the coroner system to offer as a plea against the indictment that it is an inefficient, ineffective, and archaic agency of government?

SHOULD STATUTES GOVERNING CORONER'S SYSTEM BE CHANGED?

If Doctor Carr had limited himself to an exposition of the excellent progress made in the coroner's office of San Francisco, little comment would have been necessary other than to say, "Well done, keep up the good work." But Doctor Carr makes the good record of a single coroner's office the basis of an argument against adoption of the medical examiner system. He says "changing statutes is a long and tedious process." Changing statutes so that the counties of other states may do what San Francisco County has done may be an even more tedious process than a change that substitutes the medical examiner for the coroner. In a recent article,[3] I have discussed the effects that modernized forms of county government, such as have been proposed in a number of localities, may have upon the coroner's office. I expressed the view that neither a reformed coroner system nor a medical examiner system will solve the medicolegal problems of rural counties.

Whether statutes have to be changed or not is not a valid argument either for retention of the coroner or his replacement by a medical examiner. Certainly a radical change of statute was necessary before the coroner of San Francisco County could be made an appointive official serving for an indefinite period. It was this fact of continuous nonpolitical service, not the fact that the title of the office was not changed by statute, that made improvement possible.

ANTIQUATED LAWS RESPONSIBLE FOR POOR CORONERS

Doctor Carr further says: "Doctors have been and will again be elected to this office without changing statutes or losing caste." Here, there, and elsewhere physicians have been elected and have served as coroners. Inasmuch as physicians

[3] Schultz, Oscar T.: Reform in County Government and the Coroner's Office, Am. J. Clin Path., 5:316 (July), 1935.

are better educated and trained, they should be better coroners than the politician coroners of populous counties or the undertaker coroners of rural counties. But they are not good coroners—and this is said with all respect to those hard-working physicians who serve their communities as coroners. Coroners are poor officials, not because they may be physicians on the one hand, or incompetent laymen on the other, but because of the antiquated laws under which they must function. Again there arises a question of change of statutes. It is not the fact that the coroner of San Francisco may be a physician that alone has led to improved functioning of that office, but the fact that the coroner can look forward to continuous and constructive service. Given as coroner an honest, intelligent man, with good legal training and with sufficient foresight to place a qualified medical man in charge of the medical work and to give the latter proper facilities for scientific work, it is conceivable that such a coroner might do even more with the office *under the existing laws relating to that office.*

EFFICIENT MEDICAL EXAMINERS WOULD SOON BE SUPPLIED

As a further implied objection to the medical examiner system, Doctor Carr says: "The supply of good medical examiners is limited." This fact, like the others quoted, is granted. The coroner system, during the years that it has been in existence, has developed few experts in forensic medicine. Those who have become expert in this field have done so because of experience gained in other fields, and because of other connections that have made scientific work possible. The reason for the failure of the coroner system to develop a corps of experts is obvious. An elective office, with its frequent upheavals and turnovers, and its insecure tenure of office, does not attract well-trained young physicians into what should be an attractive and important subdivision of medical science. Lack of facilities for good work, and the general disrepute of the office of coroner in the past, are further deterrents.

If within a short space of time every coroner were made appointive, as has been done in San Francisco County, the dearth of men trained in medicolegal pathology would be as great as if, within the same period of time, the medical examiner system were to be universally adopted. If the coroner's office could be removed from politics and the tenure of coroner's physician made secure, or if—and this is equally important—a medical examiner system with secure tenure of office were universally adopted, men would be attracted into the field of legal medicine. Under such conditions offices like those of the coroner of San Francisco County, or those of the medical examiners of Boston, New York City, and Newark, would become centers for the training of experts. Our medical schools would be forced to establish schools or institutes of legal medicine, just as the increasing demand for full-time public health officers led to the establishment of institutes of hygiene and public health.

SUCCESS OF APPOINTIVE OFFICE IN SAN FRANCISCO AN ISOLATED EXAMPLE

Making the coroner an appointive official has led to great improvement in the office of coroner of San Francisco County. But the office has been appointive in a number of states for a longer period of time than has been the case in San Francisco, and this has led to no elevation of the character of the office. Removing the office from politics by making the coroner appointive will not cure all the evils of the office.

Every study has shown that one of the bad features of the office is the antiquated body of law under which the coroner must perform his duties. More is needed than a little tinkering here and there of the laws relating to the method of selection or other minor details. Such inexpert tinkering leaves the vehicle still a horse and buggy, and does not make of it a modern automobile. The entire body of laws relating to the office should be thoroughly revised and made to fit present-day conditions. In this respect the medical examiner system has a distinct advantage. Where that system has been adopted an entirely new law has been written, and this more clearly defines the duties and authority of the medical examiner than does any statute relating to the coroner.

EVIL OF THE CORONER'S INQUEST

There is left still one more evil which, to my mind, is the worst of all. I refer to the coroner's inquest before a jury. The coroner's inquest is a magisterial or quasijudicial proceeding, which is useless and often pernicious in that it duplicates and often impedes the work of other established and more competent agencies. With this view Doctor Carr evidently does not agree because he says, in contrasting the coroner with the medical examiner, "his opinions are balanced by jury." If coroner's juries in San Francisco are anything like the usual jury in Chicago or Cleveland or Cincinnati or Philadelphia or anywhere else, I question whether a man capable of forming a scientific opinion would want his opinion balanced by such a jury, or whether it is advantageous to the community to have such a balance.

PROPER MEDICOLEGAL MEDICINE NEEDED IN AMERICA

What this country needs to place legal medicine on the high plane of this discipline in countries other than those influenced by English law, is an agency for the investigation of certain classes of deaths clearly specified by law. The investigation should be of the dead body for the purpose of determining in as accurate and scientific a manner as possible the cause of death, and of any material that may yield information relative to the circumstances surrounding death. Such an investigation is wholly a function of medical science and of a medical science that can make use of all the auxiliary sciences whenever necessary. All other investigations which have to do with the detection, apprehension and punishment of those who may have a criminal or negligent responsibility for death should be left to police agencies.

the grand jury, the prosecutor and the courts. Under such a system medical science does those things which it alone can do and does only those things. The agency for such an application of medical science in the administration of justice is, in effect, the medical examiner. The latter should be a medical scientist, not a magistrate of the caliber of a rural justice of the peace, or a detective or a policeman or a partisan ally of the prosecutor.

MEDICAL EXAMINER SYSTEM HAS PROVED SUPERIOR TO THE CORONER'S SYSTEM

The adoption of the medical examiner system does not by any means solve all the medicolegal problems of an American community. But that system has proved its superiority over the coroner system in those jurisdictions where it has been tried. In rural communities—and it is to be noted that in such communities it has been used only in Massachusetts under a law passed in 1877—the medical examiner system is better than the coroner system, but still leaves something to be desired. One of the fundamental errors of the coroner system is that a purely rural English office was adopted for, but not adapted to, all of the various kinds of communities that exist in the United States. The same mistake should not be made in attempting to improve the present state of affairs. But in rural as well as in urban jurisdictions, in agricultural as well as in industrial counties, the fundamental medicolegal problem is scientific medical examination. How this is to be obtained for rural governmental units is a problem for the political scientists, but one for whose solution the best advice of the medical profession will be necessary. With adequate financial support the medicolegal agency of a large city can develop its own scientific departments. Scientific medicolegal service for rural counties will probably require the establishment of such state medicolegal institutes as have been recommended by the American Medical Association and the American Bar Association.

IN CONCLUSION

In conclusion, I do not wish to be understood as in any way criticizing the office of coroner of San Francisco County. On the contrary, I wholeheartedly applaud the improvement that has been made in that office since the National Research Council's study of 1928. But that office, like every other coroner's office in the United States, still operates under the handicap of archaic laws. A change of statute law was necessary to bring about such improvement as has occurred in San Francisco. Other changes in laws will be necessary before the office can become a first-class medicolegal agency. Change of statutes is, therefore, no valid argument against adoption of the medical examiner system.

I have had the privilege of reading, in advance of its publication, Doctor Carr's article in proof, and I appreciate having been asked to comment upon it.

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THE LIVER IN RELATION TO THE SURGICAL TREATMENT OF LESIONS OF THE EXTRAHEPATIC BILE DUCTS*

By VERNE C. HUNT, M. D.
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DISCUSSION *by Clarence G. Toland, M. D., Los Angeles; Fred Fairchild, M. D., Woodland; Emmet Rixford, M. D., San Francisco.*

IN a general way it has been known for many years that disturbances in the biliary apparatus influence materially the functions of the liver; however, not until during the past decade, or thereabouts, has there developed a very definite understanding of the various disturbances of the hepatic functions. The pathology of organic diseases in the liver has long been well known, and surgeons have been cognizant of the hazards and the increased risk of surgical operations not only as they were instituted upon the biliary tract but, if instituted elsewhere in the body, in patients in whom one of the various types of cirrhosis was present, or in patients in whom gross pathologic changes in the liver of one kind or another had occurred. Surgeons have recognized for many years that deep, prolonged obstructive jaundice presented distinct hazards to surgical operations upon the biliary tract, and they also recognized certain manifestations resulting from such obstructive jaundice which they were unable to adequately explain or combat. Halsted was one of the first to direct attention to the danger and the high mortality attending operations upon the biliary tract in the presence of deep, prolonged obstructive jaundice where at operation the content of the dilated common duct was a colorless, thin watery material, entirely devoid of bile pigment, which became more thin and watery after drainage was instituted. Likewise, surgeons have for many years recognized the tendency to operative and postoperative bleeding in patients with prolonged obstructive jaundice.

VALUE OF RECENT LIVER STUDIES

During recent years investigative work has contributed much to a better understanding of the normal functions of the liver, and the alterations in the functional activity of the liver in the presence of pathologic conditions or states in which the liver is either directly or indirectly involved. Much has evolved which has been purely of scientific interest, but much of the knowledge that has been derived from the investigative efforts of the physiologists in particular has become of immeasurable value in its practical application, and through which have evolved certain relative tests of liver function and the development of preoperative therapeutic procedures. These have materially increased the safety with which patients in whom marked disturbances in hepatic function have occurred may be operated upon.

* Read before the joint meeting of Medicine, Surgery, Pathology and Bacteriology, and Obstetrics and Gynecology sections of the California Medical Association at the sixty-fourth annual session, Yosemite National Park, May 13 to 16, 1935.

The work of Mann and his coworkers and others, wherein the power of regeneration of the liver has been exhibited, has been of more than scientific interest. Quite coincidental and perhaps not entirely independent of the regenerative power of the liver, has been the frequent clinical observation of the great recuperative power in the liver following the relief of prolonged obstructive jaundice, resulting in marked diminution of the size of the liver, from a large hypertrophic type of biliary cirrhosis, in which there has been a marked hepatic insufficiency, to one of approximately normal size in which restoration of clinically normal function has occurred.

The closely correlated work of the surgeon and the physiologist, as exemplified by that of Judd and Mann, has provided during recent years considerable understanding of the relationship between the liver and the extrahepatic biliary tract. In the light of present-day knowledge it would seem that one might not safely regard extrahepatic biliary tract disease without clinical manifestations of hepatic involvement as a process confined to the extrahepatic tract without direct or indirect involvement of the liver. Cases of clinically uncomplicated cholecystitis so frequently exhibit at surgical exploration a process in the liver immediately adjacent to the gall-bladder which has been designated hepatitis. Many have directed attention to this condition existing in a variable degree of intensity, which has probably justly been assumed to be secondary to the inflammatory process in the gall-bladder or biliary tract.

"LIVER DEATHS"

During recent pears a certain group of deaths following operations upon the biliary tract have been designated "liver deaths." These have been of two types: those cases in which there were clinical manifestations of associated or resultant hepatic insufficiency, usually due to biliary obstruction; and those cases in which jaundice had never been present and did not exist at the time of operation, and from clinical observation no important changes in the liver were suspected, nor at surgical exploration was any gross abnormality in the liver found. It is this latter type which has proved most perplexing in that the postoperative course is characterized by high fever, high pulse rate, a semicomatose state and death within thirty-six to forty-eight hours; and at autopsy adequate cause of death is lacking. Heyd was perhaps the first to direct attention to this entity, which he ascribed to hepatic insufficiency and designated as an instance of "liver death." Connell, Weiss, Heuer, and others, have emphasized hepatic insufficiency as the cause of death following operations upon the biliary tract. Heuer has recently stated that approximately 4 per cent of the deaths following operations on the biliary tract were due to hepatic insufficiency.

METABOLIC FUNCTIONS OF THE LIVER

The metabolic functions of the liver are complex, and the measure of the degree of disturbances of the various functions in organic disease of the liver has not been determined. Certain tests of relative value may indicate diminished function, but the functional capacity of the liver is as yet not measurable. Certain data are available, however, which serve to a better selection of the time for the institution of surgical procedures in biliary tract disease, and the direction of preoperative and postoperative methods to improving and sustaining the hepatic functions.

While the liver may undergo marked changes incident to clinically uncomplicated biliary tract disease, one has little reason to suspect hepatic injury until jaundice becomes prominently manifest. With the onset of jaundice, whether or not accompanied by pain, involvement of the extrahepatic bile ducts by disease is immediately suspected. In general it may be stated that jaundice may justly infer hepatic involvement, whether the jaundice is of the obstructive or non-obstructive type. There are certain instances of non-obstructive jaundice in which hepatic injury and resultant insufficiency are extremely marked. For purposes of this discussion, obstructive jaundice only shall be considered.

ELEMENTS OF SURGICAL IMPORTANCE

A number of things are of major importance to the surgeon in the surgical treatment of the various obstructing lesions of the extrahepatic bile ducts. Among them are the questions of hepatic insufficiency and disturbances in the blood resulting in a bleeding tendency. A major function of the liver, and one upon which the relative safety of operations upon the biliary tract is dependent, is that of carbohydrate metabolism, which, so far as is known, is not shared by any other organ or structure in the body. Without entering into a discussion of the evidence, it is well known that the rôle of the liver in carbohydrate metabolism in maintenance of blood sugar levels is necessary to life. It is likewise well known that the glycogen store, although not entirely confined to the liver, is depleted through any disturbances of carbohydrate metabolism when true obstructive jaundice exists. The more complete the biliary obstruction and the longer its duration, the greater is the disturbance of carbohydrate metabolism and glycogen depletion.

BLEEDING IN THE JAUNDICED PATIENT

The tendency to operative and postoperative bleeding in the jaundiced patient has been a complex problem which has resisted solution, so far as the factors involved are concerned, but which, in a general way and from a practical viewpoint, has become controllable to an increasing degree. Much investigation has been conducted regarding changes that occur in certain elements of the blood and their relation to coagulation in cases of prolonged obstructive jaundice. That the coagulation time and the bleeding time of the blood are materially prolonged in many instances has led to the erroneous deduction that the tendency to operative and postoperative bleeding does not exist if the coagulation time and bleeding time of the blood are within normal limits. Numerous instances have proved that normal coagulation time and normal bleeding time in obstructive jaundice

do not necessarily eliminate from consideration the hemorrhagic tendency. Much of the therapy instituted in the elimination of this hemorrhagic tendency has been directed toward combating deficiencies in the clotting elements of the blood. However, little question remains that a deficiency in one or the other of these elements does not consistently exist in the instances of hemorrhagic tendency in obstructive jaundice. In 1929, Mann proved conclusively that the liver has little, if anything, to do with the clotting elements in the blood, and stated that, following total hepatectomy in the experimental animal, no appreciable change occurred in the calcium content nor in the prothrombin content of the blood; also that fibrinogen is not altered by the process of hepatectomy, and that antithrombin may increase or may be decreased in the absence of the liver.

More recently the most excellent work of Carr and Foote, as carried out on a series of patients with obstructive jaundice and in the experimental animal, provides conclusive evidence that there is no significant variation in the amounts of the formed clotting elements of the blood. Loss of the retractile power of the fibrin and the whole clot was noted. They concluded that the error in clotting is due to an additional product which inhibits the process or interferes with the clotting mechanism rather than to an insufficient amount of any of the elements contributing to the normal clotting complex. Carr and Foote have emphasized that in obstructive jaundice the coagulation time may not be prolonged, but that the bleeding tendency exists because of the formation of the clot as influenced by an inhibitory product—not as a strong type of occluding mesh which retracts and efficiently prevents the escape of blood, but as the precipitation of a porous, non-retractile, friable gel of poor consistency, which is not capable of obstructing the flow of blood and plasma and, through which both cells and plasma pass slowly. Cystein, a protein product, observed by Mueller and Sturgis to be an anticoagulant and known to accumulate in excessive amounts in obstructive jaundice, possesses the ability, according to Carr and Foote, to influence the plasma and clotting elements, to the formation of a faulty or leaky clot. Furthermore, these authors state that they have eliminated the bleeding tendency in obstructive jaundice in the experimental animal through the reduction of the amount of circulating cystein by the administration of brombenzene.

Even though it has been proved that a deficiency of calcium in the blood does not exist in obstructive jaundice, the intravenous administration of calcium in the jaundiced patient has had apparent influence in the reduction of the coagulation and bleeding time when they were abnormally prolonged, and under such conditions has apparently reduced the hemorrhagic tendency in many instances. Likewise, transfusions of blood have often brought about a reduction of prolonged coagulation and bleeding time to within normal limits, as has the intravenous administration of glucose. These are all measures which, in accordance with present knowledge, merit continued use in the preoperative and postoperative management of the patient with obstructive jaundice. Glucose administered intravenously not only possesses some value in reducing the hemorrhagic tendency in cases of prolonged obstructive jaundice, but also provides for restoring and sustaining the glycogen reserve in the liver.

No accurate methods exist by which the bleeding tendency in obstructive jaundice may be anticipated. The statement has been made repeatedly that the coagulation and bleeding times are of no value in determining a tendency to bleeding, to which it seems some reservations should be made. A normal coagulation and bleeding time does not necessarily eliminate from consideration the bleeding tendency, but the abnormally prolonged coagulation and bleeding time provide very definite evidence that a hemorrhagic tendency does exist.

PANCREATIC INSUFFICIENCY

While the surgeon is chiefly concerned in obstructive jaundice with hepatic insufficiency and the hemorrhagic tendency, there are obstructions in the terminal portion of the common bile duct in which there is associated obstruction to the passage of pancreatic secretions into the duodenum, with resultant pancreatic insufficiency. Occasionally such associated pancreatic retention and insufficiency are encountered when a stone is firmly impacted in the ampulla of Vater, but more frequently when the obstruction is due to primary or secondary malignant disease involving the ampulla of Vater or the periampullary region of the duodenum. Intractible diarrhea and rapid decline of the patient in obstructive jaundice suggests associated pancreatic retention and insufficiency.

JAUNDICE NOT ALWAYS PRESENT

Before one may clinically suspect involvement of the common or hepatic duct in disease of the biliary tract, the symptom of jaundice must have occurred previously or must be present at the time. It is noteworthy, however, that intrinsic pathology in the ducts may exist without jaundice and, furthermore, that not all instances of jaundice indicate obstruction of the common or hepatic ducts, or even the existence of pathology in the biliary tract. Lahey has recently stated that in 37 per cent of the patients in whom he had removed stones from the common or hepatic ducts, jaundice was not present either at the time of operation or at any time in the past history. Judd and Marshall, following the review of a large series of cases in which stones had been removed from the common duct, noted that there was an absence of jaundice previously or at the time of operation in 26.5 per cent of the cases.

OBSTRUCTIVE AND NON-OBSTRUCTIVE JAUNDICE

Since jaundice must be present to direct attention to the extrahepatic bile ducts, the clinical diagnosis is dependent upon whether the jaundice is obstructive or non-obstructive. It is necessary that these two types of jaundice are differentiated, but this is not always possible and errors in diagnosis occur. Likewise the differential diagnosis of

the various causes of obstructive jaundice often presents a most complex problem, and an element of error is always present, as has been proved at operation and at necropsy. Experience has proved that in the absence of contraindications, and after sufficient rehabilitation of the patient, directed particularly to the restoration of the glycogen reserve of the liver and the reduction of the bleeding tendency, practically all cases of obstructive jaundice should be surgically explored. In applying such a general rule, it will sometimes happen that through difficulties of accurate differentiation, an occasional case of non-obstructive jaundice will be operated upon. Such an occasional exploration is far less serious than to allow a case of obstructive jaundice caused by a surgically removable process to remain unexplored indefinitely through the adoption of a more conservative policy.

The greatest difficulty of ascertaining whether the jaundice is obstructive or non-obstructive, and whether surgical exploration is advisable, occurs in those cases in which the jaundice is not accompanied by pain. Calculous disease of the biliary tract provides by far the most frequent cause of extrahepatic bile duct involvement, resulting in ascending infection and intermittent incomplete or complete obstruction. Crump demonstrated in one thousand consecutive autopsies that stones were present in the ducts in 24 per cent of the cases of calculous disease of the biliary tract, or 21 per cent of the gall-stone cases if stones in the cystic duct were omitted. Clute and Swinton have recently stated that common and hepatic-duct stones have been found in 17 to 21 per cent of the cases that have been operated upon for gall-stone disease in the Lahey Clinic. In 1931 Judd and Marshall stated that stones were removed from the common or hepatic duct in 13.2 per cent of a large series of cases of gall-stone disease. In reviewing a series of cases of gall-stone disease that I had operated upon previous to 1930, it was noted that the common duct had been opened in 13 per cent of the cases, and that such exploratory choledochostomy had been productive of stones in a little more than half of the cases, or in 7.3 per cent of the series. Appreciation of a higher incidence of common and hepatic-duct stones in recent years caused me to review recently the cases of gall-stone disease that that I have operated upon during the past five years. In this latter series the cases were divided into two groups: (1) those in which at a primary operation on the biliary tract for calculous disease in which the common duct was incised and explored in 32 per cent of the cases, productive of stones in slightly less than one-half of the cases or 13 per cent; (2) and those in which a previous operation for gall-stones had been done elsewhere or by me with a recurrence of symptoms referable to the extrahepatic ducts, in which the common duct was incised and explored in each instance at the subsequent operation productive of stones in 80 per cent of the cases. In the two groups of calculous disease as a whole, the common duct was incised and explored in 40.9 per cent of the cases, and stones were removed from the common or hepatic ducts in nearly half, or 20 per cent of the cases. It is apparent that stones in the common and hepatic ducts are present much more frequently than was formerly supposed, and do not necessarily produce obstructive manifestations; but when present, if not actually producing obstruction, persist as potential causes of recurrence of symptoms and infection and disturbances in the liver. The increasing frequency with which stones are found to exist in the common or hepatic ducts justifies, in the absence of contraindications, incision of the common duct and exploration of its interior in not only those cases in which stones can be palpated in the common or hepatic ducts, but in those cases in which one or more stones are impacted in the cystic duct at its junction with the common duct, all cases in which an antecedent history of jaundice has existed or in which jaundice is present at the time of operation, and in all cases in which undue dilatation of the common duct is observed.

OBSTRUCTIVE JAUNDICE AND CHRONIC PANCREATITIS

Among the cases of obstructive jaundice, those due to chronic pancreatitis often are amenable to surgical drainage of the common duct over a relatively long period of time. The various strictures of the common and hepatic ducts are often associated with complete obstructive jaundice, with resultant marked hepatic injury and insufficiency. While stricture of the ducts rarely is encountered as a congenital process, and the inflammatory stricture resulting from an obliterative cholangeitis occurs with relative infrequency, the postoperative stricture due to division of the common duct, excision of a segment of the duct or its inclusion in suture or ligature incident to cholecystectomy, provides a situation which usually may be treated surgically by a reconstructive procedure attended in many instances with entirely satisfactory results, even though considerable biliary cirrhosis and hepatic insufficiency have developed.

PRIMARY CARCINOMA OF THE EXTRAHEPATIC DUCTS

The operability of primary carcinoma of the extrahepatic ducts has not been great, and the mortality rate of radical removal of such lesions has been high. Primary carcinoma of the distal end of the common duct or in the periampullary region of the duodenum producing both bile and pancreatic retention, with rapid decline of the patient, presents formidable surgical problems not only in the technical execution of a radical extirpation of the lesion, but in the control of the various factors contributing to the surgical risk. Following the successful resection of a primary carcinoma of the ampulla of Vater within the past year, I was prompted to review the literature, from which it was possible to collect only eighty-five cases in which surgical extirpation of a primary periampullar carcinoma had been accomplished, with a mortality rate of 38 per cent. Most impressive in this review were the several hundred reported cases of primary periampullar carcinoma, in which the true pathology was dis-

closed only at necropsy; whereas the clinical diagnosis had most frequently been that of carcinoma of the head of the pancreas, and surgical exploration had not been instituted or only a palliative short-circuiting type of operation had been done. The important observation was the small size of the primary carcinoma, its usual resectability and the usual absence of metastases. In other words, the operability of primary carcinoma of the periampullary portion of the duodenum and the distal end of the common duct actually is high. It is worthy of emphasis that painless obstructive jaundice does not necessarily indicate inoperable malignant disease, and that such obstructive jaundice is not always due to carcinoma of the head of the pancreas, and that such obstructive jaundice justifies surgical exploration more frequently than has exploration been instituted in the past.

IN CONCLUSION

In general it may be stated that the better understanding in recent years of the pathology of biliary tract disease, the effect upon the liver in the presence of infection in or obstruction of the extrahepatic bile ducts, has influenced the physician to look to methods for the relief of obstruction early, before the well-known sequelae of jaundice occur. Methods are available for preoperative restoration of the glycogen reserve of the liver, the sustaining of hepatic function, and the reduction of the hemorrhagic tendency in obstructive jaundice. Such measures have materially increased the safety with which extensive surgical procedures, if need be, may be carried out in the presence of obstructive jaundice, and have made possible the applicability of certain surgical procedures heretofore attempted only with great risk and a minimum prospect of achieving a successful end-result.

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DISCUSSION

CLARENCE G. TOLAND, M. D. (1930 Wilshire Boulevard, Los Angeles).—When we consider that approximately 50 per cent of all postoperative deaths in patients with obstructive jaundice are due to hemorrhage, we can readily appreciate the intense interest this subject holds for clinicians and laboratory workers alike.

Doctor Hunt very ably has pointed out the enormous amount of investigative work that has been directed at the solution of the baffling problem of hemorrhage in jaundice.

The methods that have been involved, attempting to predict the hemorrhagic tendency in these patients, are unquestionably of inestimable value, but still there has remained a gap of uncertainty. Patients with a normal bleeding and clotting time, and normal blood calcium determinations, at times unobtrusively develop a latent bleeding tendency. This becomes manifest following the shock of operation, presumably the result of liver damage, and death results from postoperative hemorrhage.

Quite recently Ivy and his coworkers have attempted to devise a bleeding-time method which, they believe, is a more accurate guide in determining the hemorrhagic tendency in jaundice.

They state that the tonicity of capillaries and arterioles, causing a retraction of their walls, is a major factor in the cessation of bleeding from small vessels. In the usual bleeding-time method (Dukes), this tonic action tends at times to show normal bleeding-time limits, although a latent hemorrhagic diathesis exists.

In the bleeding time as modified by Ivy, the factor of capillary tonus is eliminated by applying a sphygmomanometer cuff about the arm with a pressure of about 40 millimeters of mercury. The venous return is thus cut off, increasing the pressure in the capillaries and arterioles sufficiently to overcome the capillary tonus.

This method was used on a number of jaundiced cases, and it was found that often when the Dukes bleeding time was normal, the venous pressure bleeding time was definitely prolonged.

We are using the Ivy bleeding-time method on the jaundiced cases on my service at the Los Angeles County Hospital, but we have not as yet employed it often enough to arrive at definite conclusions. Certainly the method has merit, and only time can prove its efficiency.

*

FRED FAIRCHILD, M.D. (Woodland Clinic, Woodland). The problems in relation to medical or surgical treatment of diseases of the biliary tract have in the past been troublesome indeed. They are still great, notwithstanding the advancements spoken of by Doctor Hunt, made during the past decade, in our understanding of the various disturbances of hepatic functions. There are still many unsolved problems.

But what we have learned by experiment and experience has been of inestimable value, and even though we may not be absolutely clear as to the scientific explanation for results under given conditions, the ability to get those results has greatly reduced our mortality tables and extended the field of success in surgery as applied to the biliary tract.

The proofs of the remarkable regenerative power of the liver cells gives us courage to carry on in those conditions which, a few years ago, we would have accepted as hopeless. The reward is often a restoration beyond our expectation.

As the speaker has said, the rôle of the liver in carbohydrate metabolism in maintenance of blood-sugar levels is vital, as is its relation to the storage of glycogen. The practical application of this knowledge is responsible for the attention now given to preoperative preparation and postoperative care. The importance of this attention cannot be overstressed. By introducing glucose directly into the blood stream, or under the skin, or by introducing sugar into the stomach, the substances lost through disease are largely restored. With this knowledge we proceed with surgery, having a justified expectation of success.

The discussion of those cases where death is preceded by symptoms leading to the conclusions that they had met "liver deaths" suggests, by their similarity, the complication so often seen in those patients where there is a normal secretion of bile, or bile and pancreatic juice, but for some mechanical reason there is a complete loss of the fluid. This fluid, being restored by its reintroduction into the stomach through a Levine tube has often, in our experience, promptly caused a disappearance of the alarming symptoms. The query comes as to whether the two processes are essentially the same: in the one case there is an absence of bile because it is not secreted; in the other it is absent by being discharged from the body before it is utilized.

The frequency with which stones are found in the hepatic or common duct, when there had been no history suggesting their presence in these locations, has been very properly stressed. Recognition of this condition is not always easy. Failure to note it is certainly one of the important causes for recurring symptoms. Removal subsequently is technically more difficult than would have been correction at the original operation.

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EMMET RIXFORD, M. D. (1795 California Street, San Francisco).—I have read Doctor Hunt's paper carefully and with interest. My first impression is one of commendation, for it is a good thing to have such collective views presented to us once in a while to give us a comprehensive view of a situation, and to make us realize that there are numerous fields for

further research, especially in pathologic physiology; but I was disappointed that the author dealt so exclusively with generalities and gave comparatively few facts, of which he doubtless possesses many and on which cautious practice might be based.

His conclusion, however, is practical, namely, that "better understanding in recent years of the pathology of biliary tract disease . . . has influenced the physician to look to methods for the relief of obstruction early"; and yet many of these things are not very new. Again, "Methods are available for preoperative restoration of the glycogen reserve of the liver, the sustaining of hepatic function, and the reduction of the hemorrhagic tendency in obstructive jaundice," etc.; but the author gives little information as to what these methods are so that others may profit by them.

The author has nothing to say about one of the most important causes of liver degeneration, namely, the effect of the anesthetic. Those of us who go back to the days of chloroform, or to the A. C. E. mixture, can remember case after case of so-called postoperative jaundice due, not to obstruction of the biliary ducts, but to destruction of the hepatic parenchyma by chloroform; the patient becoming increasingly agitated, deeply toxic, with rising fever, thready pulse, etc., till he finally succumbed, a real "liver death."

Ether, to be sure, is far safer as an anesthetic, but even it has a deleterious effect on the liver cells. In either case this effect may be diminished by giving food, especially starch and sugar preoperatively, and an abundance of fluids before, during and after a prolonged operation.

I can remember when it was considered essential to physic a patient before an operation, and further to deplete him by the omission of two, three, or even four meals, and to prepare the abdominal skin so conscientiously as to keep the patient awake most of the night before operation. Something of this is done today, and those who are thus conscientious in preparation of their patients for operation are the very ones who are most anxious postoperatively to feed the patient early, blaming the resultant gas pains on the patient's "habitus."

I quite agree that it is of value to administer sugar, but I also feel that it is quite as good practice to feed the patient liberally up to within twelve hours of the time of operation. For many years now it has been my practice to give the patient a good meal the night before operation, of course emphasizing starches.

I would suggest a word of caution in following the advice to open the abdomen ***promptly*** in cases of postoperative jaundice on the ground that it may be obstructive. If the jaundice happens to be due to damage to the parenchyma, further anesthetic is likely to assure the death. One should have very good reason to believe that the jaundice is obstructive, not destructive.

The author does not mention cholangitis with decomposition of the bile often characterized by the rapid formation of gall-stones, for which drainage is the one procedure we possess which is likely to relieve that condition, but, on the other hand, drainage of all the bile for a considerable period is in itself deleterious. In two such cases, in order to check rapidly developing emaciation, in desperation I sutured the drainage opening in the common duct; succeeding in one, failing in the other, for in this latter case a handful of irregular gall-stones would form in the duct in a day, almost under one's very eyes. Here drainage must be maintained, but the patient should be given bile by mouth.

From practical experience, I have come to the conclusion that the danger of bleeding in prolonged icterus is greatly exaggerated; for I have never seen a serious hemorrhage after operation on gall-bladder or ducts except where there was failure to secure proper operative hemostasis by ligation and suture.

As for carcinoma of the papilla causing jaundice, I recall that the late Robert Abbe of New York, in the early nineties, advocated its surgical removal as being eminently feasible if done reasonably early. I have performed the operation twice (one in 1899), although in both cases as a late procedure, successfully in one, the patient living two years before recurrence became manifest. She had been in absolute jaundice nine months under Christian Science instruction before coming for operation.

There is no question that stones in the common duct are more common than we used to think, so it is good advice to suggest that the common duct be opened in most cases of gall-stone disease, whether there is jaundice or not; but to avoid the infelicities of prolonged loss of all the bile, the duct should be closed and drainage made through the cystic duct, which should be preserved for this purpose (Halsted), provided, of course, that it seemed fairly certain that all the stones had been removed.

Small stones are more dangerous than large, as was pointed out by Opie years ago, for they favor passage of bile into the pancreatic duct, resulting too often in acute pancreatitis. In a recent case of fatal pancreatitis, autopsy showed bile sand scattered through the entire length of the pancreatic duct, even to the tail of the pancreas.

In this connection I cannot but question whether it is good practice to squeeze the gall-bladder in laparotomies to see whether it empties readily. I can conceive that with a small stone in the common duct, or a tight sphincter of Oddie or beginning carcinoma of the papilla, bile might be forced into the pancreas with disastrous results.

As Doctor Hunt says, if given time the liver will regenerate to a truly extraordinary extent; at least remaining parts of the liver will hypertrophy and preserve liver function. Many years ago I found at autopsy complete destruction of the right lobe of the liver with hypertrophy of the left lobe to the size of the entire liver in the normal individual. The man had had typhoid fever fourteen years previously, with phlebitis of the iliac veins and vena cava, with metastatic abscesses which gradually compressed the right lobe of the liver to a mere cicatricial shell. The hypertrophied left lobe carried on the liver function perfectly.

THE LURE OF MEDICAL HISTORY*

MR. JOHN HUNTER ON GENERATION†‡

By ARTHUR WILLIAM MEYER, M.D.
Stanford University

III**

PRINCIPLES GOVERNING THE FORMATION OF ANIMALS

UNDER "Principles Governing the Formation of Animals," Hunter wrote: "The first process set on foot in the formation of an animal is so small, without that form which it afterwards gradually takes on, and its situation so obscure, that its operation cannot be traced, but by taking it up at stated times, when we find a new part either added or come to view, or a degree of perfecting having taken place in the part." (Essays and Observations, *i*, p. 203.) He believed that ". . . Nature gives to every order of animals a mode of reproduction peculiar to itself," and that "we are led to examine this process in those where its operations are most easily and certainly come at." He realized that ". . . hours make a difference in

* A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of CALIFORNIA AND WESTERN MEDICINE. The column is one of the regular features of the Miscellany department, and its page number will be found on the front cover.

† Because John Hunter occupies so large a place in the development of surgery, it is commonly but erroneously assumed that he had the title of Doctor of Medicine.

‡ From the department of anatomy, Stanford University Medical School, Stanford University.

** Part I of this paper was printed in the August issue of CALIFORNIA AND WESTERN MEDICINE, page 145; Part II, in the September issue, page 222.

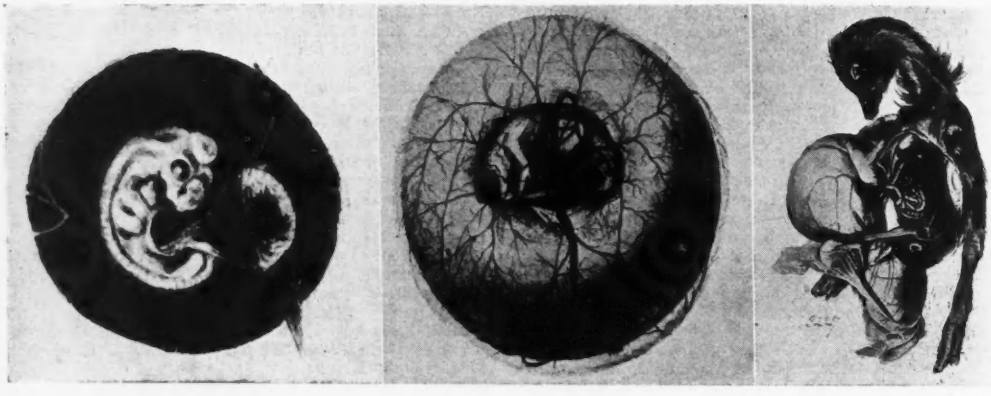

Fig. 4 Fig. 5 Fig. 6

Additional illustrations from the larger series of as yet unpublished drawings made for Hunter, to illustrate the development of the goose. These three are published for the first time through the courtesy and with the permission of Sir Halburt Waring, president of the Royal College of Surgeons of England.

the first days" of incubation, and that it hence "becomes necessary to examine in the night as well as in the day; by which reason, the latter brood in the summer is best adapted, having then short nights." (*Ibid.*, pp. 205-206.) Anyone who knows how tireless a worker Hunter was, and how late his hours were, will realize that he did not desire short nights in order to save himself inconvenience or interrupted sleep. We are likely to forget that the question of adequate illumination at night was a difficult one in that day, and that it, probably, was responsible for this advice.

I am not at all certain that Hunter realized that there is a difference in the size and appearance of the so-called cicatricula of the unfertilized and the fertilized goose-egg, for he wrote: "On one side of the yolk is a lighter spot than any of the other, which is called the 'cicatricula'; in this is the chick formed; but before incubation no traces of the embryo can be discovered, there being no difference between this part that is impregnated, and one not impregnated." (Essays and Observations, *i*, p. 201.) In commenting upon these words, Sir Richard Owen wrote: "This similarity can only be understood as referring to the absence of visible traces of the embryo." However, it seems to me that Hunter very plainly stated that differences between the "cicatriculae" in the impregnated and unimpregnated egg can only be brought out by incubation, and that is not the case. The only other words which bear upon this question are found in a discussion "Of the different kinds of female parts of generation commonly called 'ovaria,'" in which he wrote: "Probably the only part which constitutes the ovum in the unimpregnated state, is, in birds, the part which forms the cicatricula in the increased state, and that the increase is due to the addition of yolk only."

It is pertinent to recall in this connection that the nucleus of the hen ovum was discovered by Purkinje in 1825 and that for some time thereafter it was known as Purkinje's vesicle. Since Purkinje could not find this nucleus at a certain stage in the transit of the egg through the oviduct because it is in mitosis, he drew a wrong conclusion regarding its fate and function. There is, of course, no cicatricula in the sense of a cellular layer in an unfertilized egg, and the cytoplasm, which was previously taken for a cicatricula or blastodisc, is smaller than the blastodisc or blastoderm of the fertilized unincubated egg.

Hunter correctly stated that in the case of the incubated goose egg: "The chick at first, or in its . . . hour, is totally void of membrane, only having over it the external membrane of the yolk, which, when removed (which is easily done), the animal is perfectly bare.

"The first formation or expansion of its membranes are in pretty quick succession, and then go on together, some being sooner completed than others. The first expansion of parts would appear to be the formation of membranes, or changes in membranes naturally belonging to the egg.

"The first membrane that is formed is the membrana vitelli, which forms immediately under the proper membrane of the yolk; so it would appear that at this time the yolk had two membranes (but how far originally so I do not know); the external, a fine transparent one, and the other, more spongy, and having the power of becoming vascular." (Essays and Observations, *i*, p. 207.) (See Figures 4, 5, and 6.)

He also described the formation of the amnion, which had previously been recognized and, according to Owen, this membrane is represented in the "Physiological Catalogue," Volume V, Figure 7, Plate 69, and Figure 5, Plate 70. In this footnote Owen also spoke of ". . . the beautiful magnified view of the chick resting upon the yolk, in Plate 71, where *b*, the serous layer, is reflected from *d*, the vascular layer and mucous layers of the germinal membrane, or 'membrana vitelli' of Hunter. See also the mucous layer, *f*, Figure 5, Plate 75, reflected from *g*, the vascular layer of the germinal membrane or vitelline sac, in a further developed embryo." (*Ibid.*, p. 208.) (See Figures 7-10.)

Regarding what he called the vitelline membrane, that is the germinal membrane or blasto-

derm, Hunter thought that it ". . . would appear to have formed itself from the intestine; [and] if so, then it was prior to that part being visible; or it might be considered an expansion of, or a process from, the intestine over the yolk, and under its own proper membrane. That part next to the chick appears to divide into several laminae, or has the power of forming several; for we find, by the time the whole has formed such and such parts, that we can separate it into . . . laminae, which are seen in Plate —, Figures —. This membrane is extending itself over the yolk, expanding itself till its edges come beyond the largest diameter; and now, as it expands in length from the chick, it contracts at its edge, and at last encloses the whole yolk, forming on the opposite side something like a cicatrix, to which the last part of the slime adheres." (*Ibid.*)

When writing of the placenta in the monkey, Hunter recognized the amnion, chorion, decidua, and cord, which he said are very similar to those in man except that "The navel-string in the monkey is not proportionally so long as in the human, and is very much and very regularly twisted," and that ". . . the decidua is considerably thicker, especially where it passes between the uterus and the placenta." He added categorically, but erroneously: "There is no urachus, and of course no allantois; not even the small ligament that appears to be a drawing-in of the bladder at its attachment to the navel, the bladder here being rounded." (Animal Œconomy, p. 105.)

In describing the allantois, Hunter also spoke of it as the "third membrane." This, he said, contains urine and ". . . acts as the chorion or placenta, for it must be by this surface that the albumen is absorbed, and the chick supported." He rightly concluded that "The external part of this bag, which comes in contact with the shell, and as it enlarges lines more and more of it, till at last it lines it everywhere, I conceive to be the lungs, for it is the only part that comes in contact with the air; and on opening an egg pretty far gone, I find that the blood in the veins is scarlet, while it is of the modena colour in the arteries of the bag. Besides, it is much more vascular than any of the other membranes, which is just the reverse of what we should imagine, if it did not answer that purpose." In comment on these words, Owen said that it was not until 1834 that the need for oxygen on the part of the incubating egg was fully established by Schwann in a dissertation entitled, "'De Necessitate Aëris Atmoscherici ad evolutionem Pulli in Ovo incubito,'" and he added: "From which it appears that the development of the embryo in the common fowl may go on without oxygen in the ordinary course to the fifteenth hour, and that the life of the germ is not destroyed till between the twenty-fourth and thirtieth hours, but that the presence of oxygen is essential to further development." (Essays and Observations, *i*, pp. 210-211.)

I feel quite certain that it would not be fair to infer from these words that Sir Richard thought that incubation could begin without any oxygen whatever, but that the oxygen contained in the air-space within the egg and that absorbed by the substance of the egg itself, would permit development for about fifteen hours. Owen pertinently added that there were facts which gave ". . . the highest probability to the opinion expressed in the text of the respiratory function of the allantois, and of the necessity of access of air to that membrane through the pores of the shell, for the development of the chick."

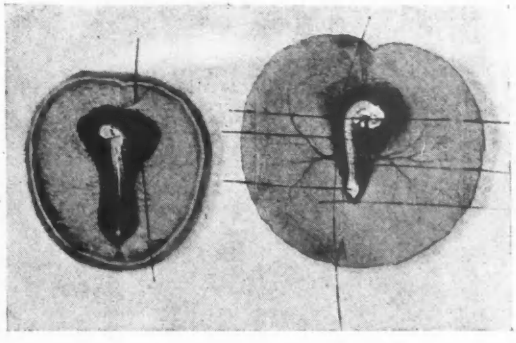

Fig. 7 Fig. 8

Figs. 7, 8, 9 and 10.—Additional illustrations from the same series referred to in the quotation from Owen.

Fig. 7.—"In this figure the cephalic extremity, *i*, is turned back out of the primitive amniotic fossa."

Fig. 8.—"The embryo and germinal membrane at a more advanced stage, seen as resting upon the yolk, but less magnified."

It will be recalled that Harvey and others erroneously held that a fertilized egg does not putrefy as quickly as an unfertilized one because of the presence of the vital principle in the former. Hunter claimed to have found the fertilized egg more resistant to cold, but found that it will putrefy after freezing, that is, after death. While studying the blood and experimenting with the circulation of the chick, he noticed that the heart beats at a time when only colorless blood flows in the vessels of the vertebrate embryo, as it does permanently in that of the invertebrate. He erroneously called this colorless fluid serum and lymph, but showed that a portion of it was coagulable. Owen said that the observation of Hunter regarding the presence of colorless blood remained unnoticed; but was rediscovered by Delpech and Coste, and announced to the Paris Academy of Sciences in 1832.

According to Hunter, "The chick is formed first on its back, and then turns on its left side; and till this period the heart is not seen, or if it exists it must lie before the medulla, which will, from its transparency, render it obscure; for in this side view, we see, as it were, the profile, and from its lying in a transparent fluid, it can be seen moving in it even before there is any red blood." (Essays and Observations, *i*, p. 212.) One is puzzled very greatly, though, by Hunter's statement that "It may be necessary to remark, that, while the heart of the chick acts, the blood keeps red; but as soon as it ceases to act, the blood becomes almost immediately pale, and soon loses its red colour; therefore it is necessary to keep the

Fig. 9

Fig. 10

Fig. 9.—"This plate exhibits a stage of development corresponding with that of the chick at the end of the third day."

Fig. 10.—A foetal goose somewhat after the twelfth day of incubation, "with the neck of the allantois, and the vitellicle dissected to show its structure." (Physiological Catalogue, 1840.)

animal alive as long as possible.*" (*Ibid.*, p. 206.) It likewise puzzles one how he could say that "In the beginning of the formation of the chick, there is great distinctness of parts, for they gradually take place one after another" (*Ibid.*, p. 207), unless by "parts" he meant the trunk, head and limbs, and by "beginning" did not mean the first steps in development.

He was familiar with the degeneration of the right oviduct in the goose, and with the formation of two kinds of down, and he mentioned the appearance of the "air-bags" in the abdomen. He also made observations on the development of the body wall, the eyelids, the nictitating membrane, and many other things. Upon careful consideration of Hunter's notes on the development of the goose (chick), one is reminded of Russell's statement that his feeling was for physiological rather than morphological things and, as Owen said, "The observations of Wolff on the development of the digestive organs of the chick, published in 1774,† are more numerous and precise than those of Hunter. Of the formation of the glands Hunter says nothing. Malpighi seems to have been the first who recognized the primitive form of the liver." (Essays and Observations, *i*, p. 214.)

When one considers that Hunter kept a flock of geese for fifteen years, using the eggs for purposes of study, the written results of his observations seem rather meager, but the unpublished illustrations are good and numerous. The briefness of the text may be due to his interrupted hours, to the fact that his interests were many-sided, and that he hence found it difficult to follow a particular subject intensively. Moreover, he seems to have had only a secondary interest in development *per se*, his main interest apparently lying in the other things included under the term "generation." Nevertheless, the old problem of the development of the eel also received his attention, and he persisted in his observations until he found and recognized its roe and had learned from others of the conduct of lampreys in spawning time. He also made observations on the generation of snails, mussels, oysters, moths and beetles, and spoke of the "Two-fold Birth of Flying Insects, . . . one from the egg, the other from the chrysalis. The exact parts formed in each state are not as yet known. One would naturally suppose that all the vital parts were formed in the first stage, and the wings, limbs, &c. in the second: the first stage brought all the vital parts to their full size; and as the insect must have an addition of parts, or become another animal, it must lie dormant till such parts are formed. If this had not been the case, then they must have been obliged to change their coats or skin as they grew; like the lobsters, &c." (Essays and Observations, *i*, p. 226.)

HUNTER'S INTEREST IN ABNORMAL DEVELOPMENT

Hunter was interested also in abnormal development and concluded that: "Monsters are not peculiar to animals: they are less so in them, perhaps, than in any species of matter. The vegetable [kingdom] abounds with monsters; and perhaps the uncommon formation of many crystals may be brought within the same species of production, and accounted for upon the same principle, viz., some influence interfering with the established law of regular formation." (Essays and Obser-

"* Various were my attempts to effect this, but mostly in vain. I conceived that when I had just exposed the little animal but putting it into water, heated to about 204 degrees, just covering the egg, I might keep it alive by these means, and observe in the same chick the whole progress of growth; but it soon died; therefore, I was obliged to have recourse to a succession."—J. H. In the photostatic copies of the original manuscript of "The Progress and Peculiarities of the Chick," the above temperature, written in Hunter's own handwriting, appears as "104 degrees."

† Wolff's monograph first appeared in 1768, in Latin, and in German in 1812.

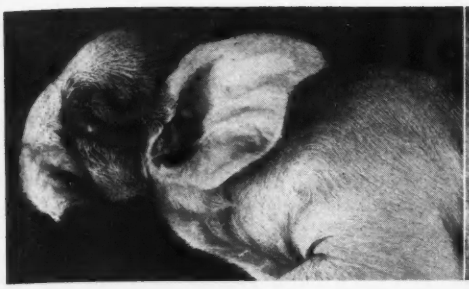

Fig. 11

Fig. 12

Fig. 11.—Side view of the head of an excellent specimen of a false elephant pig, in which the abnormal development of the nose is not accompanied by cyclopia, but by almost complete failure of development of the mandible.

Fig. 12.—A reproduction of a photograph of a true elephant pig, accompanied by cyclopia, in which the proboscis representing the nose is attached above the eye, as is usual in this abnormality.

vations, *i*, p. 240.) When considering the question, "Are particular Species subject to peculiar Monstrosities?" Hunter wrote: "It is more than probable that monsters are common to every animal; at least it appears so by all those we are acquainted with. From the rarity of any peculiarity in the production of malformations of any particular kind of animals, one would be inclined to believe that there is but one principle governing these formations. However, there are some animals that have a species of malformation peculiar to themselves, viz. the elephant-pig, which I never saw belonging to any other animal." (*Ibid.*, p. 248.)

Shortly after I came to California, someone sent me a photograph of such a pig, hoping to be paid a very unusual price for what he regarded as an extremely rare malformation, and Sir Richard Owen pointed out that Sir Hans Sloane possessed such a specimen in the human subject. We now know that the condition is not extremely rare, being associated with cyclopia. (See Figs. 11-12.)

Perhaps the most perplexing case of abnormal development mentioned by Hunter is that of ". . . a young duck with a foot growing out of its head. (Hunt. Prep. Series of Monsters, No. 31.)" (*Ibid.*, p. 243), and it is curious that he thought that "America would seem to abound more in double-headed snakes than any other country. I have heard of several, by gentlemen who have been there, and I have two from that country in my possession; but I do not remember to have heard of any in other countries." This idea of Hunter's is confirmed by the testimony of his uncommonly faithful assistant and conservator, William Clift, who, in a footnote, wrote: "Mr. Rembrandt Peale of Philadelphia, when in London with the skeleton of the Mastodon in 1802, told me that double-headed snakes were so frequently met with in America, that they considered them as species, and not as monsters: but he did not recollect if they were similarly marked. There were several specimens in his father's museum at Philadelphia or New York." (*Ibid.*, p. 251.)

Hunter thought that ". . . in the cicatricula of the egg there never are formed two chickens; but, when a twin is produced, it is from two yolks: we have, however, monsters in chickens." (*Ibid.*, p. 244.) It may be recalled that Harvey had stated that "a single monstrous individual" rarely arises from a double-yolked egg. However, it has been known for a considerable period that, in the chick, double monsters occasionally arise from a single ovum. Aside from the older experiments of Panum (1860) and Dareste (1879), the occurrence of polyembryony in the chick was more recently established by the cases of Mitchell (1891), O'Donoghue (1910), Tannreuther (1919). Very recently Byerly and Olsen (1934) also reported that "Complete monovular twins and even triplets are occasionally found among chick embryos. Incomplete or anterior duplications are more frequent. Quantitative data on the incidence of duplication appear to be lacking" (p. 247). It is not clear from this report, however, whether any of the complete monovular twins or triplets reached nearly full development or were likely to do so. The establishment of identity would, to be sure, be convincing proof of the fact that twins were uniovular, but that might be a very difficult matter in some cases unless a comprehensive examination were made.

Riddle (1923) also reported the occurrence of monozygotic twinning in pigeons, having observed eight cases in 20,000 eggs, but it is not clear whether the twins had come to hatching and survived, for, as Mitchell suggested, such twins would have to develop from approximately half the normal amount of substance. They hence would be small and probably also weak, and might not be able to break the shell. And, if they hatched, they would also have to start life with only half as much yolk as usual, and would need food more urgently. It is possible that Hunter is correct and that monovular twins never hatch because, as Mitchell emphasized, "An avian, unlike a mammalian embryo, has only a limited source of organic nutrition, and the probable fate of a monster like this double embryo would be death, due to exhaustion of food supply before maturity had been reached" (p. 323).

"MONSTERS HEREDITARY"

Under "Monsters hereditary," Hunter wrote: "Monsters, or the deviations from the common course, or what may be called the original principles [types], in nature, have in them an heredi-

tary principle. We may first observe that animals, not monsters in themselves, shall have the principle of producing monsters. I have seen three 'spinae bifidae' in the children of one family: in another family only having two children, both these had very large exostoses. I have seen two harelips in the children of the same parents." (Essays and Observations, *i*, p. 246.)

Sir Richard Owen, to whom we are indebted for so many learned and illuminating comments on Hunter's notes, thought that "It is evident, however . . . that he regarded the cause of congenital malformation as existing in the primordial germ" (Animal Œconomy, p. 81); but it seems to me that Hunter realized that monsters could result from influences from without as well as from within, for he said that ". . . most of the monsters are formed as early as we can observe any formation. However, this is not always the case; therefore we have monsters before birth and after. . . . The first class of monsters are those that are born so. Now let us inquire in what respect is an animal, some time before birth, similar to a vegetable, or to the parts of animals which have the power of regeneration after birth. We are to consider, first, that the life of an animal, before birth, is very different from what it is after. This difference in the principle of life [before birth] comes much nearer to vegetation, and most probably the further back we go, this similitude is the stronger. I fancy in this inquiry we must go as far back as the first formation of the animal, when the matter is moving into different forms, similar to the formation of a new layer or a new shoot in a vegetable; for in neither animal nor vegetable are the parts formed at once. A vegetable is, at all times, similar to the first formation of an animal, or to the new formation in a lizard's tail. These [*i. e.*, the growing branch or regenerated tail] meeting with obstructions to their [proper] forms readily admit of duplication; but I believe seldom of more." (*Ibid.*, p. 243.)

(To be continued)

CLINICAL NOTES AND CASE REPORTS

ABRUPTIO PLACENTAE

By Leon J. Tiber, Ph.D., M.D.
AND
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ABRUPTIO placentae was first recognized by Louise Bourgois in 1609. Rigby, in 1776, directed attention to this condition, which he designated as "Accidental Hemorrhage" in contradistinction to the inevitable bleeding in placentae praevia (Scott). Holmes, in 1901, called it "Ablatio placentae," while Kolisk, in 1903, applied the term "Infarctus hemorrhagicus uteri." De Lee names it "Abruptio placentae." Williams describes it as "Premature separation of the placenta." A severe form of abruptio placenta described by Couvelaire is known as "Uteroplacental apoplexy."

INCIDENCE OF PREMATURE SEPARATION OF THE PLACENTA

The incidence of premature separation of the placenta varies greatly in the statistical surveys of various authors. The range extends from one case, in 94 deliveries, to one case in each 894 deliveries. Holmes's series shows the occurrence as 1 in 200 cases; Polak as 1 in 305; Goethal as 1 in 94 cases. A representative figure of one case in 395 is obtained from a series of 100,000 labors in New York. Most writers agree that many cases go undiagnosed. According to Davis and McGee, partial separation occurred once in 357 deliveries, while complete separation occurred once in 770 deliveries; furthermore, one out of every three grave cases had uteroplacental apoplexy which was diagnosed only after section or postmortem examination.

Multiparity is generally thought to be a predisposing cause. Wing reports it as four to five times more frequent in multiparae than in primiparae. The incidence increases directly with the number of pregnancies. Fitzgibbon's series of premature separations has a 10 per cent incidence in primiparous women. In their respective studies, Brod and Holmes report 21 per cent and 19.2 per cent respectively, in primiparae. The highest occurrence, 36.6 per cent, is reported by Davis and McGee, who conclude "parity plays little rôle."

ETIOLOGY

Although the etiology of premature separation is as yet obscure, the preponderance of evidence points to toxemia as the most probable cause. Winter, in 1885, pointed out that ablatio placentae occurs with patients showing evidence of hypertension or albuminuria. In his publication in 1922, Prentiss Wilson states he believes that in about 90 per cent of cases there is either clinical or pathological evidence of toxemia; while Kellogg, in 1928, says, "The etiologic factor in toxemia and premature separation is sometimes the same." Williams believes it has a toxic origin—not the usual preëclamptic type, but a special type, the cause of which is still unknown. Young thought the infarcts so frequently found in placentae of toxemic patients produced the toxin by autolysis of the infarcts.

Hofbauer shows that histamin produces similar changes in the placentae of experimental animals. Morse, in 1918, produced hemorrhages in the uterus by excessive rotation of the organ. Browne, in 1928, after experimentally producing nephritis in animals, caused premature separation of the placentae in these animals by injecting them with B. pyocyaneus. Traumatism, jars, coitus, purges, coughing, twisting in bed, profound emotions, short umbilical cord, endometritis, multiple pregnancies, and hydramnions have all been advanced as causes for premature separations.

PATHOLOGY

The hemorrhage, resulting from complete or partial separation, may escape through the vagina

(external hemorrhage), or it may be entirely retained within the uterus (concealed accidental hemorrhage). The former is more common, but fortunately, less dangerous than the latter. Williams states that he has seen but one case of concealed hemorrhage in 15,000 deliveries.

The separation is started by an effusion of blood into the decidua basalis, which splits and forms a decidual hematoma in the spongiosa. The collection of blood compresses and throws out of function the adjacent placental tissue. Since the uterus cannot contract sufficiently to compress the torn, bleeding vessels because it is still distended by products of gestation, the blood escapes between the membranes and uterine wall to appear per vagina (external hemorrhage).

Concealed hemorrhages occur when (1) the margins of the placenta remain adherent; (2) the membranes retain their attachment to the uterine wall even though the placenta is completely separated; (3) the blood breaks through into the amniotic cavity, and (4) when the head, acting as a tampon, is so accurately fitted in the lower segment that no fluid can get past it. Fortunately, in a majority of cases the membranes are gradually separated from the uterine wall, so that the blood appears externally, hastening diagnosis and treatment.

Grossly the uterus, and occasionally the tubes and ovaries, have a bluish or purplish color with a coppery sheen similar to a "twisted ovarian cyst." The broad ligaments are markedly hyperemic. The outermost layers of the myometrium show the densest and deepest discoloration from the bloody effusion. In milder cases there may be just subserous ecchymosis. Microscopically, there are platelet thrombi and endothelial injury in the uterine wall (Rosenfeld). The whole process suggests the action of a lytic agent, which affects both vascular endothelium and muscle cells alike (McGee and Davis). There is an extravasation of blood with edema and disassociation of muscle fibers. The extensive destruction of muscle tissue explains the failure of the uterus to contract in some cases, even though the organ has been thoroughly emptied.

Ablatio placentae usually occurs in the latter months of pregnancy, or it may appear during labor. Most of the reported cases occurred in the last trimester. Labor commences with the onset of symptoms, and the patient seeks medical aid because of the pains or because of vaginal bleeding, or both.

When the separation is partial there may be little or no pains, and constitutional symptoms may be slight or entirely absent. The hemorrhage may be profuse or merely evident because of spotting. In more serious cases the patient experiences severe abdominal pains, frank vaginal hemorrhage (if external), or sudden violent fetal movements. In the undiagnosed, untreated, or grave cases, the patient may be in profound shock which is all out of proportion to the amount of hemorrhage. Nausea and vomiting may be present, but are of little significance. Anemia of varying degrees of severity becomes progressively more acute.

SIGNS AND SYMPTOMS

The uterus is extremely tender. It may have a normal or hard, board-like feel. Cases are reported where the uterus is of a doughy, soft consistency. In certain instances the organ assumes a globular shape. The size, especially in the external type, is but slightly larger than would be expected for the particular month of pregnancy. Tetanic contractions of the uterus may result in the failure of labor to progress. Irregularity, marked change in rate, or absence of fetal tones indicate fetal asphyxia.

During labor a sudden hemorrhage, severe abdominal pains, and aberration of fetal heart sounds are pathognomonic of a premature separation. The patient may even go into shock.

One of the most serious complications of pregnancy is the concealed accidental hemorrhage. The picture is more or less constant in its manifestations. The uterus gradually or rapidly enlarges to a size much greater than corresponds to the month of pregnancy. It is exquisitely tender, smooth or irregular in contour, stone-like in consistency, and may show no rhythmic contractions. Severe abdominal pain is present, but is less marked than in the external hemorrhage type of ablatio. As in other types, anemia appears and shock may be evident. The fetus is invariably dead.

TREATMENT

There is a divergence of opinion as to treatment of ablatio placentae. Statistics indicate that conservative treatment gives the lowest mortality figures. In his publication in 1931, Kornfeld especially demonstrates that conservative treatment gives far better results than radical procedures. In Williams' series of fifty-seven cases only three deaths occurred, each following a section. Manual dilatation, version and extraction, and difficult forceps delivery are accompanied by an increased fetal and maternal mortality, more particularly in severe cases. The high operative mortality is due, no doubt, to the fact that the most serious cases, the poorest risks, are necessarily the ones subject to the most intensive treatment.

We must differentiate between mild and severe cases, which is not an easy task. Each case, however, must be considered individually, and treated as conditions indicate. Treatment must be instituted as soon as the diagnosis is made. The procedure depends upon certain factors: (1) the period of gestation; (2) the parity of the patient; (3) whether or not labor is in progress; (4) the condition of the membranes; (5) the condition and amount of dilatation of the cervix; (6) the degree of anemia; (7) the absence or presence of infection, and (8) the general condition of the patient.

In mild cases with good labor pains, little hemorrhage, and absence of fetal distress, conservative treatment is the one of choice. Pain is relieved by hypodermic injections of morphin, the membranes are ruptured, and the vagina packed with wet gauze. An abdominal binder is applied from above downward to control further uterine distension. If the presenting part is in the pelvis,

and there is no bony disproportion, three minim doses of pituitary extract are given at twenty-minute intervals. The pulse and blood pressure are taken every half hour, while the hemoglobin and red count estimations are made at hourly intervals. In addition, the fundus is measured at one-half hour intervals. If the labor is progressing satisfactorily and the pulse, blood pressure and blood readings are constant, and the fundus shows no further distension, the patient is allowed to deliver spontaneously. Low forceps are often applied to hasten delivery.

Twenty units of pituitary extract are given as the head passes the vulvar ring. The placenta is expressed with the first contraction, or if there is a delay it is removed manually. Usually the uterus contracts satisfactorily and bleeding stops. Ergot is given before the patient leaves the delivery room. In certain instances where the uterus fails to contract it is packed with gauze. Transfusion, intravenous fluids, and other supportive treatment is given while preparation for hysterectomy is being made.

In severe cases shock and pain are combated by morphin, transfusions, intravenous fluids, heat, and other supportive measures; then, if dilatation is complete and labor may be terminated easily, the uterus is emptied from below; otherwise a cesarean section is indicated. In any event, the uterus must be emptied as promptly as possible whenever signs of acute hemorrhage (concealed or external) become evident. In most of these cases section offers the best chance because the fibers of the uterus are so frequently disorganized by the hemorrhage that when delivery is through the birth canal, postpartem hemorrhage due to atony of the uterus may cause a fatal result. An abdominal hysterectomy is then apt to be done too late.

Indications for cesarean section are as follows: (1) if labor has not begun; (2) if the cervix is undilated, even though labor is in progress; (3) the presence of any condition apt to cause long or difficult labor; (4) signs of progression of bleeding in spite of intensive conservative treatment; (5) if there is still chance to obtain a live baby without unnecessarily jeopardizing the life of the mother. In the last instance, cesarean section performed upon a mother in fairly good condition should have no more mortality than is incident to any laparotomy, and if practiced more often would materially lower the infant mortality. In addition, supravaginal hysterectomy could be done at the time if conditions so indicate, thus not taking any chances of postpartem hemorrhage as a result of uterine atony.

In the event the woman is in labor and the cervix is easily dilated manually, version and extraction or forceps delivery may be performed according to the station of the head and the ability of the accoucheur.

The prognosis in abruptio placentae is always serious. It is unfavorable for the mother and worse for the child. Maternal mortality resulting from hemorrhage, trauma, shock or sepsis varies greatly in the literature, being highest in the smaller series. Figures ranging from 7.5 to 50 per cent are reported. The fetal mortality, chiefly due to asphyxia, is from 60 to 95 per cent. Apparently the chances for both mother and fetus are better in the multiparae than in primiparae.

The influence of ablatio placentae upon subsequent labors has not been studied sufficiently to draw any definite conclusion. Rosenfeld, in 1933, reported that of five women experiencing premature separation of the placenta, four had subsequent normal deliveries; the remaining patient had a recurrence of the condition in the following pregnancy. He is of the opinion that a woman who once experienced a premature separation of the placenta need not necessarily be advised to avoid subsequent pregnancy, for her chances of having a normal pregnancy and labor are good.

REPORT OF CASES

A report of three cases occurring in private practice within a relatively short time is presented:

Case 1.—Mrs. S., age 27, grav. I, para. 0.

Past History.—Negative.

L. M. P.—October 29, 1931. Expect. August 5, 1932. Physical examination: Essentially negative. Measurements normal. Laboratory findings: Negative. No unusual symptoms during pregnancy.

P. I.—On August 2, 6.30 p. m., while patient was at dinner, she was suddenly seized with continuous cramping abdominal pains. Rest in bed was advised at once. In twenty minutes the pain became more severe, and the woman was sent to the hospital. On her way there she began to bleed profusely, vomited, and fainted.

Examination at the time revealed the bag of waters unruptured; F. H. T. 140 to 150, irregular and indistinct; head presenting at station 1 plus; cervix undilated; moderate hemorrhage; uterus globular, contracted, and extremely tender. It was difficult to outline fetal parts. Rectal examination increased the vaginal hemorrhage. The pains were still constant. After consultation, cesarean section was performed.

On laparotomy, free blood was found in the peritoneal cavity. Right half of the uterus was blackish red and numerous black areas which simulated thrombotic vessels were scattered throughout the involved side. Near the midline on the same side there was an area which appeared gangrenous. The mottled appearance extended to the lower uterine segment anteriorly and to the pelvic floor posteriorly. On incising the uterus it was found that the placenta had separated from the uterine wall. A clot, the size of a hand, was present between the placenta and uterine wall. Membranes and live fetus delivered. The uterus contracted satisfactorily upon injection of pituitrin intramuscularly. The uterus was packed and covered with hot saline packs during the closure of the uterine wound. The hemorrhagic areas became lighter in color, the mottled areas appeared paler, while the normal musculature became hyperemic; therefore, no hysterectomy was performed.

Postoperative course was uneventful.

* * *

Case 2.—Mrs. K., age 32, grav. I, para. 0.

Past History.—Usual childhood diseases. Tonsillectomy twice. Appendectomy, 1925.

L. M. P.—March 7, 1932; quickening on July 18; expect. December 12. Measurements: 22-26-30-18-19½ R.—19½ L.

Heaith During Pregnancy.—Much nausea and emesis; edema of extremities toward evening; constipation. On October 19, complained of pain in the left breast, but no pathology found. Laboratory findings: Negative.

P. I.—On November 20, 1932, the patient began to have shooting pains in the abdomen, which radiated

to the left side of the chest and back, especially in the left subscapular region. Examination at the time showed nothing abnormal. Bed rest was advised. The following day the pains increased in severity, especially when the uterus would contract. Bed rest was continued and sedatives administered. Four days after the onset, at 7 p. m., while the patient was at dinner, she was seized with sudden, sharp, continuous abdominal pain which radiated to the left subscapular region. Thirty minutes later the woman began to have a show of blood and mucus per vagina. She was immediately hospitalized, and examination showed the uterus to be in tetanic contraction, globular in shape, and extremely tender. F. H. T. in L. L. Q. 124, very weak. B. O. W. intact. Cervix 50 per cent effaced and two centimeters dilated. There was profuse vaginal bleeding. The patient complained of severe constant abdominal pain.

On laparotomy it was noticed that the subcutaneous tissues were markedly edematous. Free fluid was found in the peritoneal cavity. Upon the lower left portion of the uterus and broad ligament there was a large, dark, hemorrhagic area 6 by 8 centimeters in diameter. On section of the uterus, 100 cubic centimeters of free blood escaped. Following the rupturing of the membranes, meconium-stained fluid gushed out. A live baby was delivered without delay. It was pale and nearly exsanguinated. About three-fourths of the placenta was separated from the uterine wall. After injection of pituitrin the uterus contracted satisfactorily, and the hemorrhagic areas cleared up. On closer inspection of the placenta, the dark pathologic area was seen to be almost necrotic. The remainder of the tissue was apparently normal.

The mother left the operating room in good condition. The baby was given 30 cubic centimeters of intramuscular blood soon after delivery because of hemorrhage from the bowel and gums. Mother and baby made an uneventful recovery.

* * *

Case 3.—Mrs. S., age 23, grav. I, para. 0.

Past History.—Childhood diseases. Tonsillectomy followed by "hemorrhage." Thinks she is a bleeder. Miscarriage at three months, one and one-half years ago.

L. M. P.—May 10, 1932, expect. February 13; quickening, September 22, 1932.

Physical Examination.—Essentially negative. Measurements normal. Blood pressure, 120/72.

Laboratory Findings.—Moderately heavy trace of albumin. Normal coagulation and bleeding time.

Health During Pregnancy.—Nausea and vomiting during first two months.

P. I.—On December 12, 1932, patient was in an automobile accident. She stated that she suffered no injury other than nervous shock. Soon after the accident, she experienced abdominal pain, vomiting, and slight vaginal bleeding. She was put to bed and sedatives given. The F. H. T. showed no abnormality. The bed rest was continued till day of delivery, February 22, 1932. Vaginal spotting was present during the course of observation.

Patient delivered normally, the first stage lasting twelve hours, the second one and one-half hours, and the third stage seven minutes. The placenta showed a large dark area involving one-third of the maternal surface, indicating a premature separation. Mother and baby left hospital in good condition in ten days.

COMMENT

The three cases present interesting and unusual observations. All three occurred in primiparae, two of whom were apparently normal, while the third showed evidence of toxemia. Cases 1 and 2 were seized with pains while at the dinner table, while Case 3 complained of symptoms following a nervous shock sustained in an automobile accident. Incidentally, Case 1 was sterile for four years, and Case 2 for ten years prior to the respective pregnancies reported.

One patient experienced subscapular pain occurring with the possible onset of the premature separation. We can only speculate as to the relationship between this pain and the placental separation. We can find no similar incident reported in the literature, but this finding may be of diagnostic significance.

CONCLUSIONS

1. Ablatio placentae can occur in patients who are apparently normal.
2. The premature separation may occur at any time without any demonstrable or predisposing cause.
3. The separation may be present for a considerable length of time without injury to mother or fetus, as demonstrated by Cases 2 and 3.
4. The amount of bleeding is no indication of the extent of the separation.
5. Cesarean section should be performed whenever there is an opportunity of saving the life of the baby without unnecessarily jeopardizing the life of the mother.

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A SIMPLE METHOD OF PREPARATION OF TISSUE FOR MICROSCOPIC EXAMINATION

By E. F. Cain, M.D.
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IT is trite to repeat that early accurate diagnosis of cancer is essential to its control. In larger centers, where the services of a trained pathologist with his equipment are available, biopsies are readily done. This constitutes a major advantage which is not enjoyed by the "occasional" surgeon or the practitioner in a small center. He is forced, in most instances, to depend upon his judgment of the gross appearance of the tissue with which he is dealing.

A course, or courses, in biology have been made an essential part of our premedical education, and in the examination of plant tissues we were expected to learn to cut microscopic sections satisfactorily. During the past few months I have attempted to prepare sections from tissues removed at operation by employing a method similar to that used by technicians in botanical laboratories.

The equipment necessary is easily obtained: a tube of ethyl chlorid so constructed that a fine spray may be directed in a given direction; a large-bottle cork; a "straight blade" shaving razor; and staining solution. The surface of the cork is first well moistened with water. Ethyl chlorid spray is then directed on this surface, and continued intermittently until a thin frosted surface is obtained. On this a small thin portion of fresh tissue or of tissue prepared by heating for a few moments in hot dilute formaldehyd solution is placed. The spray is again directed on the surface of the tissue until a firm solid mass is obtained. With a well-sharpened razor, thin portions are quickly shaved off the surface of the frozen mass

until a representative section is obtained. (The blade is moistened with soap solution or water.) With some care a very thin section can be cut. It can then be removed with the finger-tip into a shallow vessel containing one per cent sodium chlorid solution. From this it is quickly removed to another shallow vessel containing Unna's polychrome methylene blue solution or some modified stain. Here it remains ten to thirty seconds; from there it is removed with a small glass rod to another vessel containing one per cent sodium chlorid solution, where it is quickly washed, rolled out on a glass slide and covered with a cover slip. The tissue can then be examined under the low- and high-power magnifications of an ordinary microscope.

With practice, considerable dexterity will be gained, and reasonably satisfactory microscopic sections made. No originality is claimed for this method. It offers an easy scheme of examination, and should be of some advantage to the isolated surgeon. Most of us have spent weary hours in pathology and histology courses, familiarizing ourselves with the microscopic appearance of normal and diseased tissues. After graduation, very little of this training can be of use, because only for a few are the services of a large laboratory readily available.

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MESENTERICO—PARIETAL HERNIA

REPORT OF CASE

By FREDERICK S. FOOTE, M.D.
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CONGENITAL defects of the intestinal tract, which result in obstruction, involve mainly the midgut. This embryologic division corresponds, in the fully developed bowel, to the portion between the duodenojejunal junction and the middle of the transverse colon. It is the portion of the bowel which is involved in rotation in the embryonic period to reach its final position in the fully developed abdominal cavity.

Obstructions result from three primary abnormalities of this process in the embryo. The first, and most common, is incomplete rotation, in which the cecum and appendix fail to descend to the right lower quadrant; may remain, in fact, in the upper abdomen or even in the left abdomen.

The second abnormality is reverse rotation, which results in the duodenum being placed anterior to the transverse colon, with obstruction of the colon. Volvulus of varying amounts of small bowel, as well as cecum and ascending colon, also occurs as a complication of reverse rotation.

The third anomaly is failure of the rotated bowel and its primitive mesentery to fuse to the posterior abdominal wall. This third condition predisposes to intussusception, volvulus and internal or mesenterico-parietal hernia.

These anomalies were pictured and described in detail by Dott [1] in 1923.

Mesenterico-parietal hernia, also known as duodenal hernia of Treitz,[2] is formed when a portion of small bowel becomes confined between this unfused primitive mesentery and the posterior abdominal wall. It is most likely to occur when rotation has been completed and when the large bowel has fused in the proper place, but when the primitive mesentery of the large and small bowel has failed to fuse. This condition leaves an opening through the mesentery of the small bowel either to right or left into a closed space, bounded posteriorly by the posterior abdominal wall; anteriorly by the primitive mesentery (two layers of peritoneum); laterally by large bowel and medially by the defective mesentery of the small bowel containing the superior mesenteric artery. The opening through the mesentery passes between the superior mesenteric artery above and the fixed point at which the terminal ileum and cecum are fused below.

Usually most of the small bowel is contained in the sac and is very often adherent within. Whether the small bowel is caught in this space during embryonic life or gains access to it after development is complete, is not clear. The fact that a number of them have manifested themselves by intestinal obstruction in new-born infants suggests that the former is true in at least some of the cases.

The clinical picture of those patients found to have such herniae during active life is essentially that of intestinal obstruction. In some instances a soft mass has been noted over the region of the sac. This mass, when noticed, has usually been mistaken for an enlarged spleen, for liver or for a true tumor.

A third group of mesenterico-parietal herniae are found at autopsy in patients dying of other causes. Most of these patients are not suspected of having herniae; nor have they symptoms of intestinal stasis. Such were the two cases recently reported by Longacre.[3] One of these patients, suffering from pulmonary tuberculosis, exhibited a mass in the left abdomen thought to be enlarged spleen. This mass was later shown at autopsy to be the hernial sac containing most of the small bowel. Longacre reviewed the literature, finding 140 cases reported to date. In 105 of these the hernia was on the left side, and in thirty-five on the right. Of the cases treated surgically, only five were diagnosed as internal hernia before operation.

REPORT OF CASE

The case which I wish to report is one of right-sided, mesenterico-parietal hernia. The patient, a male laundry foreman, forty-six years of age, was suffering from cramp-like abdominal pain, nausea and vomiting, and was referred by his physician with a diagnosis of intestinal obstruction. The onset, approximately sixty hours before being seen, was characterized by nausea and mild, cramp-like pain in the left upper abdomen. This was relieved at first by rest and abstinence from food. However, during the last twenty-four hours of the sixty he had abdominal distention, vomiting and severe left upper quadrant pain, radiating to the region of the umbilicus. Saline cathartics were vomited, and enemata resulted in expulsion of gas and a small amount of fecal material. A dose of castor oil accentuated the pain. These measures were taken of his own accord. In the past he had never had serious trouble. He remembered that once or

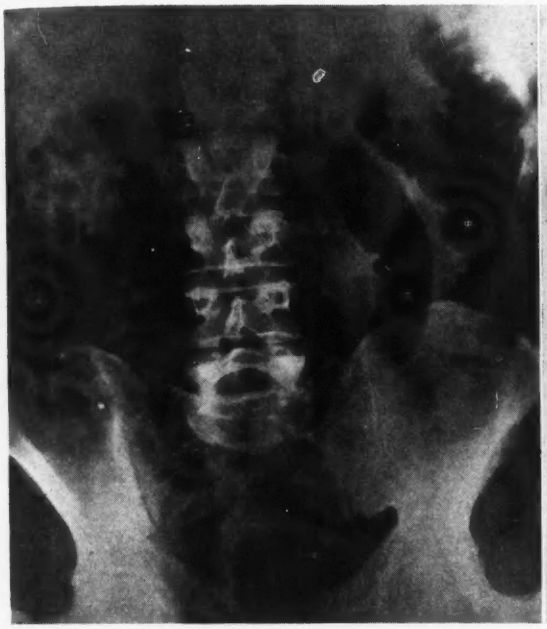

Fig. 1

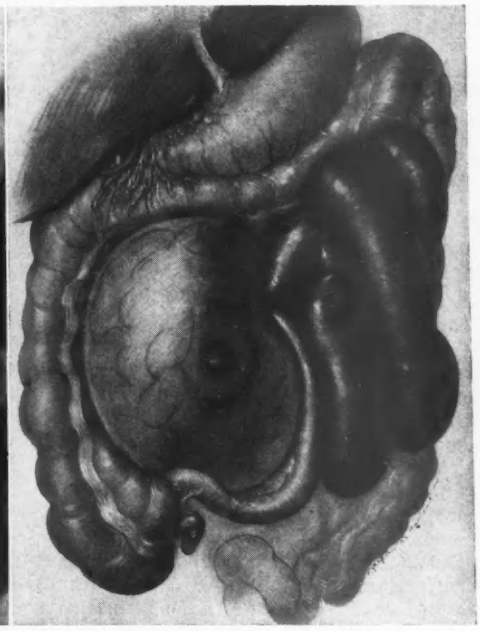

Fig. 2

Fig. 1.—Plain plate of the abdomen, taken with the patient in the upright position. The dilated loops of small bowel are shown in the left upper quadrant.

Fig. 2.—Right sided mesenterico-parietal hernia with obstruction. The obstructed bowel is shown in the left abdomen, while the collapsed loops of small bowel may be seen through the transparent wall of sac in the right abdomen.

twice a year, following extra hard work or a heavy meal, he had had abdominal cramps, which were relieved by rest, abstinence from food, and a cathartic.

Physical examination revealed no abnormalities other than those of the abdomen. Here was a definite, localized distention confined to the left upper quadrant. This area was tympanitic, with no localized dullness, no succussion splash. Peristalsis was audible, but not excessive. Pressure over the area caused pain in the region of the umbilicus.

Rectal examination revealed no masses and no blood. There was no blood in the vomitus. The leukocyte count was slightly elevated. The urine was normal except for increased concentration. His temperature was normal.

A plain x-ray picture of the abdomen, showing dilated loops of small bowel in the left upper quadrant is reproduced here (Fig. 1). There were no fluid levels in these loops. The diaphragm appeared intact throughout.

The abdomen was explored, under ether anesthesia, through a left upper rectus incision. There was a small amount of free, slightly turbid fluid. Three dilated bluish loops of proximal jejunum were exposed immediately beneath the incision. In the right abdomen many collapsed loops of small bowel could be seen confined beneath a transparent membrane. The normal omentum and transverse colon overlay these. The dividing line between the dilated bowel on the left and collapsed bowel on the right was the mesentery of the small bowel. The most dilated loop was followed with the finger to the root of the mesentery, where gentle traction suddenly released it. The collapsed bowel then followed this loop out through an opening in the mesentery. Content of obstructed loop readily flowed past the point of obstruction into collapsed loops. The point of constriction was due to outside pressure by the neck of the sac. It was approximately one meter from Treitz's ligament. The rest of the small bowel, with the exception of about 20 centimeters of the terminal ileum, was within the sac. The ileum was adherent to the neck of the sac at the point of emergence. Otherwise it was quite free and easily delivered from the sac. After the sac was emptied, the neck was found to be six centimeters in diameter, and placed four centimeters below the upper extent of the mesentery. The part of the mesentery above the neck was very thick and contained the superior mesenteric artery. The cecum and colon were fixed in normal position. The sigmoid was not especially redundant. The appendix was in normal position. There was no Meckel's diverticulum. The course of the blood supply to the terminal ileum and cecum was not determined, but the vessels did not course over the surface of the sac. The position and fixity of the spleen was not noted.

The drawing on Plate 2 shows the condition. It was drawn by the artist, from my description and from the x-rays (Fig. 2).

After the bowel was freed, the opening into the sac was closed with interrupted sutures of silk. The wound was closed with catgut.

No cultures were taken of the peritoneal fluid, but a colon bacillus infection of the subcutaneous fat of the wound probably had its origin from this fluid or from the surfaces of the badly distended bowel.

Postoperatively, for three days the patient suffered from generalized abdominal distention, which then subsided. The infected wound was healed at the end of three weeks, with the exception of a small area of superficial granulation tissue, and the patient was able to go home.

It is now six months since operation, and during this time the patient has resumed his occupation and has had no further difficulty.

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BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

RELIEF OF PAIN BY SURGICAL MEASURES

I. PATHOLOGY

CYRIL B. COURVILLE, M.D. (College of Medical Evangelists, Los Angeles).—While most operative procedures are performed with the object in mind of relieving pain or discomfort, those measures directed *solely* at the relief of pain occupy a much more limited field. Pain in such cases should have certain characteristics: it should be localized or at least regionalized, must be severe and persistent, and not be amenable to other forms of therapy. Operative procedures, in these instances, have for their object the restoration of the peace of mind, the maintenance of health and the return of the patient to as nearly his normal activity as possible.

The pathology of pain in this rather varied group of conditions is too large a field to cover in any short discussion of the subject. From the standpoint of convenience, however, the lesions which cause pain may be divided into three groups: (1) Recognizable lesions, which affect the sensory nerves themselves. (2) Recognizable lesions, not primarily of the nerves but which cannot be removed or corrected by other measures. (3) Discases of nerves whose actual cause is unknown and for which no other form of therapy is of value.

Group 1. In this group there are a wide variety of lesions which may affect the sensory nerves and cause severe pain. Perhaps the most important group are tumors of the nerves themselves, either arising from the sheaths of peripheral nerves as a part of von Recklinghausen's disease, or from roots of sensory, cranial nerves, such as neurofibromas of the fifth, eighth (with pressure on the fifth), ninth cranial nerves, or the sensory roots of the spinal nerves. Amputation neuromas also belong in this class. Cervical rib may likewise be included as one of these lesions which affect nerves directly. It must be remembered, however, that not all diseases affecting sensory nerves and that may cause prolonged, severe pain, belong to the surgical group. For example, many cases of neuritis are amenable to other forms of therapy. This is also true of most instances of radiculitis, such as is caused by osteo-arthritis of the spine. One interesting feature about some of the lesions in this first group, notably tumors of the sensory roots as found in the spinal canal or cranial cavity, is that the cause of the pain may not be recognized until the operation is performed for the relief of pain; and then the tumor is unexpectedly exposed by the surgical procedure.

Group 2. The most important diseases which cause pain in this second group, in which the cause is recognized but cannot be corrected by other measures, are tabes dorsalis and inoperable carcinoma. The pain and distress of dysmenorrhea and the pain resulting from certain diseases of the bladder may also be included. Surgery is also performed in certain vascular lesions, such as thrombo-angiitis and Raynaud's diseases, to relieve pain as well as to correct or prevent other serious difficulties. It would be to no profit, were it possible, to discuss the pathology of the varied lesions which belong to this group. Perhaps of greatest importance in this connection is a discussion of the possible mechanisms by which pain is produced in inoperable carcinoma. Pain may be produced directly or indirectly. In superficial carcinomas, pain seems to be due to exposure of the terminations of the pain fibers, or by compression of the nerve endings by the tumor or its attendant edema. On the other hand, pain which is produced by carcinomas in the region of the large nerves or trunks is usually due to pressure of the bony-hard tumor masses on these trunks. At times there may be an actual infiltration of the sheaths of the nerves producing a carcinomatous neuritis. Pain may also be produced in an *indirect* way by production of marked edema, as of the arm in carcinoma of the breast, or collapse of vertebrae, as occurs in metastatic carcinoma of the spine. These secondary causes of pain are usually amenable to other forms of treatment and are not usually an indication for surgical procedures on the nervous system. Pain of tabes dorsalis sometimes requires surgical methods of relief. In this case pain is produced by an inflammatory process affecting the sensory roots. Surgical measures are not always indicated, because tabetic pains are frequently self-limited, and will disappear of themselves in most cases after proper treatment and on elapse of time.

Group 3. It is in this group that the surgical measures directed to the relief of pain have attained their greatest success since there are no other measures that are effective. This group is composed essentially of the *neuralgias* which affect particularly the fifth and ninth cranial nerves and the sciatic nerve—more rarely others, as the suboccipital nerve. The actual pathology in this condition is not known. In some clinics, where many hundreds of sections of nerves have been examined, no characteristic lesions have been found. This is true in my own experience: that in examination of sections of nerves, as of the Gasserian ganglion, removed for trigeminal neuralgia, I have failed to find any evidence of any abnormalities. The pain in these cases is evidently due to some disturbance of function which makes these nerves unusually sensitive to ordinary stimuli.

In every case, attempt should be made to classify the pain from the standpoint of its pathology, in order to intelligently plan the operative procedure.

Prognosis of Surgical Procedure for the Relief of Pain

The prognosis of a given surgical procedure which has for its primary object the relief of pain depends upon (1) the accuracy of the original diagnosis, (2) the adaptability of the operation to the particular situation, and (3) the thoroughness with which sensory fibers are sectioned.

Needless to say, accuracy in diagnosis is of prime importance. Pain which persists after the operation is frequently the result of an error in diagnosis. Such errors are usually due to too hasty a decision arrived at after an incomplete examination.

The adaptability of the procedure is likewise fundamental. For example, if a surgeon sectioned a group of sensory fibers which did not supply the affected region, or were only part of those coming from an affected lesion, pain would still persist. Similarly, to cut a nerve or a sensory tract when some other measure would relieve the pain as well as correct the original difficulty, would be most unfortunate. For example, if the sensory root of the trigeminal nerve should be sectioned through the temporal route, when the cause of the pain was a tumor in the cerebellopontile angle, the patient would still have the tumor. In considering the adaptability of a given procedure, the extent of the area involved, or the lesion giving rise to the pain, the patient's outlook as to life, and the inherent danger of the proposed operative procedure should be given careful consideration. It is very important that the surgeon who is to perform the operation critically analyze the situation confronting him before undertaking any procedure whose major object is to relieve pain.

The completeness of an operative interruption of the pain of the sensory fibers is, of course, essential. A given procedure may fail to relieve the pain because the nerves or pathways are incompletely sectioned. This may be due in some instances to the fact that the surgeon, through insufficient knowledge of the anatomy of the region, has failed to interrupt its sensory supply. It is also possible that the operative procedure has failed to entirely section the sensory fibers, as is possible in cordotomy. In this connection, the responsibility rests wholly on the surgeon, who must use sufficient judgment and care to see that the work is thoroughly and completely done.

In the last analysis, then, the prognosis in a given case rests to no small extent with the surgeon himself in his ability to accurately size up the situation, his knowledge of nerve supply, and finally of his technical skill in completely sectioning the affected nerves.

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II. DIAGNOSIS AND TREATMENT

MARK ALBERT GLASER, M.D. (727 W. Seventh Street, Los Angeles).—Pain is a form of consciousness characterized by a desire to escape or to avoid, and varies from a slight uneasiness to extreme distress or torture. It is dependent upon a derangement of functions, diseases or bodily injury. It must clearly be remembered that the threshold of pain differs in people. In addition to the pain that is relieved by surgical measures, there are pains of other types which surgery will not alleviate. Every medical means for relief, exclusive of narcotics, must first be exhausted before surgery is attempted. In questionable cases the use of spinal or local anesthesia is advised before the actual surgery is carried out. This subject is one of tremendous scope and importance, and in this limited résumé a sketchy review can only be presented. The surgery for the relief of pain is carried out by methods directed toward the cranial nerves, spinal cord and roots, subarachnoid space, the peripheral nerves, and the sympathetic system.

I. Cranial Nerves

Trigeminal Neuralgia.—Patients suffering from trigeminal neuralgia have severe attacks of sharp, shooting, lancinating pain in the face, confined entirely within the bounds of the fifth nerve distribution. These attacks last a few seconds, but may occur repeatedly over a period of several hours to several weeks. Between the attacks the patient is entirely pain-free. There are also periods of three to four months wherein greater susceptibility to the attacks exist. The pain is unilateral in distribution, rarely bilateral, and occurs equally in men and women. During the susceptible period the slightest contact, or even a draft of air may set off an attack. Trigger zones are frequently present, and there never is an area of anesthesia. The therapy consists of trichlorethylene inhalations, alcohol injection of the second and third division, and surgical avulsion of the first division, subtotal resection of the sensory root by the temporal route (preferable), and subtotal resection by the occipital route. The pain never subsides spontaneously.

Secondary Trigeminal Neuralgia.—Secondary trigeminal neuralgia may or may not assume the same clinical picture. Frequently the pain is more continuous, and the attacks are not so characteristic. The pain may be caused by inflammations about the Gasserian ganglion or sensory root, osteomyelitis, or herpes. Tumors of the ganglion, brain, or adjacent structures may also cause a neuralgia, but are usually associated with some form of anesthesia. Vascular lesions, such as aneurysm of the carotid and basilar vessels, angiomas, and thrombotic lesions, are less frequent causes. The superior cerebellar artery or the petrosal vein may directly press upon the sensory root and cause an indentation upon the nerve. Diseases, such as multiple sclerosis, syphilis, syringobulbia, dental pulp stone, impacted third molars, carcinoma, may also bring about this pain. Fracture of the skull and jaw, as well as congenital anomalies, have been reported as etiologic factors. The relief of pain is brought about by therapy directed toward the specific diseases, or by surgery upon the trigeminal nerve.

Facial Nerve Neuralgia.—Facial nerve neuralgia has been described rather infrequently, and is based upon the studies of Ramsey Hunt in cases of herpes and facial paralysis. He found the facial nerve sensory supply was situated in the tragus,

antitragus, lobule, and deep in the ear. The pain clinically simulates trigeminal neuralgia, except the distribution differs. Taylor has relieved this pain by section of the seventh nerve and the nerve of Wrisburg. Recently, Reichert has described a type of pain similar in location, but relieved by section of the glossopharyngeal nerve. He felt that this was secondary to involvement of the tympanic plexus. In view of these two opinions, the choice of nerve severance is best determined by suboccipital exploration under local anesthesia and local stimulation of these respective nerves.

Glossopharyngeal Neuralgia. — Glossopharyngeal neuralgia consists of attacks of pain quite like that of trigeminal neuralgia, but situated at the base of the tongue, the tonsillar fossa with radiation into the neck and tympanum. Trigger zones are situated in the tonsillar fossa. The pain is relieved by intracranial section of the glossopharyngeal nerve.

Ménière's Syndrome. — Ménière's syndrome is diagnosed by ringing in the ears, gradual onset of deafness, and in additional attacks of nausea, vomiting and dizziness, of such a great degree and frequency that the patient is utterly incapacitated. The site of the lesion causing Ménière's disease is thought to be in the auditory nerve and not in the end organ. The etiology is obscure. A medical treatment, consisting of a sodium-free diet with the use of ammonium chlorid, has been recommended recently, while surgical treatment has been confined to total or subtotal section of the eighth nerve.

Vagus Neuralgia.—Vagus neuralgia most commonly is referred to the superior laryngeal branch and is caused by a tuberculous laryngitis. Pain on swallowing, as well as hoarseness, are diagnostic criteria. Relief is readily obtained by alcohol injection or surgical section of this branch. Deep-seated ear pain frequently present in carcinoma of the face has been reported relieved by intracranial section of the vagus nerve. Recently anatomical studies tend to show that the vagus supplies sensory fibers to the cranial sympathetic. Section of the vagus nerve, in addition to other methods of surgery, has relieved atypical neuralgia. These last indications for section of the vagus nerve are more academic than practical, and further research must be carried out before the method may be established.

Spinal Accessory Nerve.—The spinal accessory nerve has been held practically responsible for spasmodic torticollis. This disease begins rather insidiously with a stiffness or drawing sensation of the neck; later a pulling of the head to one side is noted. The spasm eventually becomes uncontrollable, continuous and painful. The etiology is obscure, and numerous theories have been offered. The treatment consists of bilateral intradural section of the first three anterior and posterior cervical nerve roots, and the spinal portion of the accessory nerve bilaterally.

II. Spinal Cord and Roots

Chordotomy.—Chordotomy is an incision into the anterior lateral columns of the spinal cord, and is best performed at the middorsal region. This operation was first suggested by Spiller, and popularized by Martin and Frazier. Since the fibers entering the cord do not cross until they ascend several segments in the gray matter of the same side, the operation must be performed at a level at least five segments above the segmental level of the pain. If the pain is unilateral, the contralateral tracts must be sectioned; whereas if the pain is bilateral both tracts must be incised. The theoretical high level is about the sixth cervical segment, because of the possibility of phrenic nerve complications. Operations, however, have been successfully performed at a higher level. It is believed by some observers that the gray matter must be incised in order to relieve visceral pain. This operation has been successfully performed for the relief of pain in the leg, trunk and pelvis; for inoperable carcinoma of the pelvic, abdominal organs, and spine; post-traumatic root pains from gunshot wounds, gastric crises and other tabetic pains, postmyelitic root pains, and inoperable tumors of the spinal cord.

Rhizotomy.—Rhizotomy was first suggested by Abbey in 1882 for the relief of neuralgia of the brachial plexus, tumors and other segmental pains, as well as occipital neuralgias. This operation has been used more frequently in the cervical region for the relief of pain, secondary to carcinoma, because of the dangers of cordotomy. As a whole, the results have not been as classical as the original observers had hoped. In many cases the pain was not relieved. Complete anesthesia is not obtained because of the overlapping of nerve roots. Usually five laminae are removed and six roots are sectioned. In addition to pain, temperature, touch and position sense are lost. More recently Davis was of the opinion that rhizotomy failed in its purpose because insufficient roots were severed, and he advised the cutting of at least six to eight. He has been successful in obtaining relief for angina pectoris and visceral pain.

Myelotomy. — Myelotomy was first introduced by Putnam in 1934. Pain in the upper cervical region can usually be relieved by rhizotomy. Pain, however, in the arms and shoulders is rather difficult to relieve because of the dangers of a high chorodotomy, and the fact that the sectioning of sufficient roots leaves the arm useless. For this reason it was suggested that a section of the pain fibers, as they crossed in the decussation, about the central canal would relieve this pain very much as a syringomyelia. This procedure was carried out with but one death in three cases. Additional case reports, with further refinement of technique, are necessary before this procedure should be popularized.

III. Subarachnoid Therapy

Air Injections. — Air injected into the spinal canal by the lumbar route, with an equal amount of spinal fluid withdrawn, is known as encephalography. From eighty to several hundred cubic centimeters of fluid have been removed with an equal displacement of air. This method has been successfully utilized for the relief of post-traumatic

headaches and convulsive states. Encephalography is of extreme diagnostic importance in the differentiation of surgical from non-surgical lesions of the brain, as well as to establish a pathologic diagnosis in obscure neurologic conditions.

Alcohol Injections.—Alcohol was first injected via lumbar puncture by Dogliotti in 1930. He introduced from 0.2 to 0.8 cubic centimeter of pure alcohol in the spinal subarachnoid space and obtained relief from pain situated in the lumbar and thoracic region. He has reported success in cases of radiculitis, sciatica, intercostal neuralgias, tabetic crises, and all types of lumbar sacral pain, such as relieved by chordotomy. Pain which has been relieved by sympathetic surgery has also improved following this procedure. It might be necessary to carry out more than one injection, but no cases of severe motor symptoms were reported. This method, radical as it may seem, has proved quite successful in my own experience.

IV. Epidural Injections

Normal saline, antipyrene, novocain, and other solutions have been injected through the sacral coccygeal foramin for the relief of sciatica, coccydynia, and other pains. It has also been used as an anesthetic for surgical procedures.

V. Peripheral Nerves

Peripheral Neuritis. — Peripheral neuritis may be caused by exogenous toxins, such as lead, carbon monoxid, Jamaica ginger, etc.; endogenous toxins, such as diabetes, leukemia, etc.; infections, diphtheria, typhoid, syphilis, cachetic states, and tumors. The attack upon the peripheral nerve consists of temporary novocain injections, the use of alcohol and other chemicals for a longer period of time, evulsion, crushing of the nerve, and permanent neurectomy.

Occipital Neuralgia. — Occipital neuralgia is confined to the back of the neck and occipital region, and at times may be of such severity and persistence that surgery is necessary. This neuralgia may be of a primary nature or secondary to metastatic growths. Relief has been obtained by rhizotomy, excision of the spinal ganglion and section of the occipital nerves peripherally.

Brachial Plexus Neuralgia. — Brachial plexus neuralgia has been relieved by the introduction of 20 per cent alcohol into the brachial plexus. With this low percentage of alcohol, the motor tracts are not permanently affected. Rarely is neuralgia of the brachial plexus of such a severe degree that surgery becomes necessary. Cervical rib, or ribs, are probably the most common cause for brachial neuritis. In addition to severe pain, circulatory motor and sensory signs are present. Muscle and rib resection readily relieve the pain.

Intercostal Neuralgia.—Intercostal neuralgia is secondary to numerous causes, and is readily relieved by resection of the nerve, or injection of novocain and alcohol. The herpetic neuralgias are not always relieved by this method and in obstinate cases subarachnoid alcohol should be attempted. Twelfth intercostal nerve neuralgia has been reported following major operations upon the kidney. This pain closely resembles uteral colic, and is caused by injury or adhesions of the nerve. Hyperalgesia is usually present in the sensory distribution and the pain is confined to the thigh, groin, and loin. It is continuous in duration and is readily relieved by nerve resection.

Sciatica.—Sciatica may be a symptom of constitutional or systemic disease, of tumor or inflammation of the spinal cord or nerves, of derangement or inflammatory reactions about the lumbar vertebrae, intervertebral foramin, sacroiliac joint, or the result of posture. There are other cases where no definite etiology may be determined. When all other methods of treatment have proved futile, direct injection into the nerve with various solutions, such as antipyrin, quinin, or weak solutions of alcohol, have been recommended. There is some discussion as to whether the nerve should be injected at the notch, and Labat and Greene, by the use of an electrical percussion hammer, have been able to single out the component roots favorable for injection. Epidural injections and subarachnoid alcohol have also been advised. Exposure of the sciatic nerve by surgical means with the separation of adhesions about the nerve and nerve fibers has been suggested by Babcock. Before any of these methods should be attempted, all medical measures should be exhausted. Successful relief of sciatica has been obtained in all of the above methods, and the choice is dependent upon each particular case. It may be necessary to use one, or all of these methods before relief results.

Sensory Nerves of the Perineum. — Sensory nerves of the perineum have been sectioned for certain irritative and painful lesions of the female genitalia. These conditions are associated with kraurosis, leukoplakic vulvitis and pruritus of the vulva with or without lichenification. The superficial branches of the perineal nerves, the pudendal branches of the small sciatic nerves and, if necessary, the dorsal nerves of the clitoris are sectioned.

Meralgia Paresthetica. — Meralgia paresthetica without doubt is due to a neuritis of the external cutaneous nerve of the thigh. The pain is burning, tingling, sticking, annoying rather than acute, and at times is incapacitating. It is present upon standing or walking, and is relieved by lying down. There may be a dissociation of sensation, and hyperesthesia precedes the anesthesia; in some cases the pylomotor reflex may be lost, the skin becomes thickened, the hair falls out and painful nodules appear in the subcutaneous tissue. The exact etiology is unknown, though many causes have been attributed.

Coccygodynia.—Coccygodynia may be of a true or referred type, and is caused most frequently by trauma, though arthritis and radiculitis may play a part. The pain is usually constant and confined to the sacrum; aggravated by motion and the patient is unable to sit. Upon rectal palpation the coccyx is tender. In cases of trauma, dislocation of the coccyx may be noted upon x-ray. It must be remembered, however, that the normal coccyx may appear defective. Therapy consists of

repeated epidural injections, subarachnoid alcohol and alcohol injection. If none of these methods relieve the pain, the question of resection of the coccyx must be considered. In spite of all these methods, and even with the resection of the coccyx, a cure is not always obtained and for this reason it is believed by some that the pain is psychogenic.

Pain in the Extremities.—Pain in the extremities, secondary to ulceration, which resist medical therapy or obliterative vascular disease and early gangrene, has been relieved by direct block of the peripheral nerves. The nerves which are blocked are first exposed surgically, and are the posterior tibial, deep and superficial peroneal, sural and internal saphenous.

Tumors.—Tumors, other peripheral nerves or traumatic neuromata, may occur anywhere along their respective courses, with subsequent pain. An enucleation of the pathology or, if necessary, resection of the nerve with end-to-end suture, is the method of choice.

VI. Sympathetic System

Since 1896, operations have been carried out upon the sympathetic system, primarily by such pioneers as Jaboulay, Jonnesco, Alexander, Franck Handley, and Leriche. These operations consisted, namely, of the removal of the sympathetic ganglion and periarterial sympathectomy. Royle and Hunter, in 1924, presented ramisectomy for the relief of spastic paralysis. Diez and Adson introduced ganglionectomy and trunk resection for vascular diseases. Since then the splanchnic nerves have been sectioned; operations upon the rami communicantes have been performed; the presacral nerves have been interrupted, and renal and suprarenal sympathectomy carried out. Resection of these nerves, as well as block, by paravertebral injections of alcohol and novocain have been utilized.

Migraine.—Migraine has been relieved by operations upon the inferior cervical and first thoracic ganglion. Again, the results are questionable.

Sphenopalatine and Vidian Neuralgia.—Sphenopalatine and vidian neuralgia have been treated by cocainization, alcohol injection, and removal of the sphenopalatine ganglion. If these methods failed, surgery of the sphenoidal sinus has been advised. As many of these chronic cases closely resemble, and probably are atypical facial neuralgia, relief has not always been secured.

Atypical Facial Neuralgia.—Atypical facial neuralgia is differentiated from trigeminal neuralgia in that the pain is persistent; there are never any pain-free intervals; the pain goes beyond the bounds of the trigeminal nerve, and is frequently bilateral. The continuous pain is accentuated by attacks of greater severity and lasting from several days to several weeks. The pain is difficult to describe, numerous adjectives being utilized by patients, and is deep-seated rather than superficial. It is more of a burning, aching, pressure type, rather than the acute lancinating variety. It is accentuated by general factors, such as head cold, excitement, etc., and is not relieved even by anesthesia of the given area. Sympathetic phenomena are frequently associated with this pain. Operation upon the cervical sympathetic vagus nerve, plus chordotomy, have been utilized, as well as paravertebral block. None of these measures have proven entirely satisfactory.

Angina Pectoris.—Angina pectoris has been relieved by paravertebral injection of the upper thoracic nerves, rhizotomy and operations upon the cervical thoracic sympathetic chain.

Vascular Diseases.—Vascular diseases, polyarthritis, Hirschsprung's disease, scleroderma, retinal angiospasm, post-traumatic painful osteosporosis, causalgia, angioneurosis, frost bite, Volkmann's contracture, neuritis, etc., have been relieved by ganglionectomy and trunk resection. In order to differentiate the spastic from occlusive type of vascular disease, numerous tests have been devised. By the use of typhoid vaccine, foreign protein, or simply wrapping the patient in a blanket, the temperature rise in the extremities has been measured by a thermocouple, and on the basis of the vasomotor index so established, surgery upon the sympathetic system has been indicated. Other methods of determining vasodilatation, such as nerve block, general anesthesia and spinal anesthesia (Naffziger), have been introduced. The simple emersion of the extremity in warm water, a study of the peripheral pulse volume and an oscillometric index have been utilized. Those cases of vascular disease of an occlusive nature have been treated by venous ligation. As previously mentioned, peripheral nerve block also has been used to relieve pain in the legs.

Visceral Pain.—Visceral pain, secondary to gallbladder, stomach and kidney, has been stopped by paravertebral block of the eighth to the twelfth thoracic vertebrae and splanchnic section. Peet has had excellent success in cases of essential hypertension by splanchnic section via the supradiaphragmatic route. Neuroramisectomy has been recommended for the gastric crises of tabes.

Pelvic neuralgias, dysmenorrhea, pain secondary to inoperable carcinoma of the cervix, and bladder pain of various causes have been relieved by section of the presacral nerves.

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III. SURGICAL PROCEDURES

HOWARD A. BROWN, M. D. (384 Post Street, San Francisco).—A surprising number of surgical procedures have been employed in the relief of a variety of painful conditions. The constant advance in this field of surgery has afforded immeasurable relief to chronic sufferers heretofore dependent upon the constant use of narcotics.

Probably the most widely known operation of this type is the resection, in whole or in part, of the sensory root of the Gasserian ganglion in patients with major trigeminal neuralgia or tic douloureux. The most frequent operative approach is in the subtemporal region, where a small opening is made in the bone beneath the temporal muscle. An extradural advance mesially across the floor of the middle fossa leads directly to the Gasserian ganglion and its sensory root, which is divided. The motor root, lying directly behind the

ganglion, can be spared in most instances, thus preserving the function of the muscles of mastication. Contrary to a frequent misconception, this operation does not produce facial paralysis, but results only in a complete anesthesia of one side of the face with immediate and entire relief of pain.

Alcohol injection of the peripheral branches of the fifth nerve may be resorted to in some instances; even surgical division of such branches as the supra-orbital, infra-orbital or inferior dental nerve is of value in cases in which the pain is well localized. These peripheral procedures, however, afford only temporary relief from pain which returns as regeneration of these nerves takes place. No such regeneration occurs after interruption of the sensory root of the ganglion, so that the relief of pain is permanent. Gasserian ganglionectomy is, at times, of great value in malignant growths about the tongue, lip and face, which are so frequently accompanied by severe pain. The production of anesthesia not only alleviates the pain, but also allows the attending physician to care for the surface lesions more rapidly and thoroughly without discomfort to the patient.

Glossopharyngeal neuralgia is of much less frequent occurrence, and the diagnosis is often missed. The operative treatment consists of the interruption of the glossopharyngeal nerve, which effects complete relief of pain. This procedure has been done by the extracranial as well as the intracranial approach, though the latter is the more satisfactory. The procedure is accomplished through a suboccipital opening with removal of a part of the occipital bone, exposure and elevation of the cerebellum and, finally, division of the glossopharyngeal nerve just before it leaves the cranial cavity. Following operation, the patients experience little or no difficulty in swallowing, and the patch of anesthesia in the nasopharynx and tonsillar fossa is not troublesome. This procedure also has been used for relief of pain in malignancies involving the pharynx, and the posterior one-third of the tongue.

Painful tics involving the facial muscles in convulsive, spasmodic contractions, result from certain disorders of the seventh cranial nerve. Relief may be effected in some instances by resection of small peripheral branches of the nerve, but in more severe cases resection of the entire trunk becomes necessary at its exit from the stylomastoid foramen. In these cases it is advisable to anastomose immediately the distal portion of the nerve with the hypoglossal or spinal accessory nerve, to provide for the possibility of some return of facial tone and movement at a later time.

Rhizotomy has been used for the relief of pain in several different conditions. After exposure of the spinal cord by laminectomy, the dorsal roots carrying sensation for the painful area are tied and cut just inside the dural covering of the cord. It is necessary to interrupt the roots supplying an area a short distance above and below the lesion, as well as those from the painful site itself, because of the considerable sensory overlap of these roots. The disadvantage of this procedure lies chiefly in the loss of all sensations to the affected part which, in the case of an extremity, is a great handicap. It has been used frequently in cases of malignancy, more particularly those about the neck and involving the brachial plexus. It has been of no real value in the relief of postherpetic pain or in the treatment of painful amputation stumps.

The operation of chordotomy is of more recent development than rhizotomy, and has been of much more value. It requires a laminectomy, with exposure of the spinal cord well above the site of pain; a small transverse incision is then made in the cord dividing the anterolateral tracts, which carry the sensations of pain and temperature from below. These are crossed fibers and, of course, must be divided on the side opposite to the area of pain. Frequently a bilateral chordotomy is advisable to insure complete relief of pain when one is dealing with abdominal or pelvic malignant growths. This procedure does not cause a loss of power or tactile sensation, affecting only the pain and temperature fibers, which is a distinct advantage over the results achieved by rhizotomy. When dealing with chronic pain of severe degree, the results of chordotomy have been much more satisfactory than have those of the peripheral interruption of nerve trunks. It has been successfully employed in various painful malignancies of the abdominal cavity, pelvis and rectum, as well as those involving the lower extremities. Gastric crises, painful amputation stumps, and the burning sensations occasionally present after injury to the spinal cord, frequently have been completely relieved by chordotomy. Its application to lesions of the chest and upper extremities has been limited because of the increased risk of the procedure in the cervical cord, although some cervical chordotomies without complication have been reported.

Recently an operation called myelotomy has been suggested for use in the cervical region. This consists of a midline section, paralleling the fibers of the cord and extending over a distance sufficient to include the affected segments. It has not had sufficient trial as yet to permit an estimate of its value.

Sympathectomies of various types have been employed for a variety of conditions, among which are found certain painful disorders. Interruption of the sympathetic chain in the abdominal region has been done by the transabdominal route, as well as by the lumbar extraperitoneal approach. Recently the transabdominal approach has been used more frequently. This consists of a midline exposure, retraction of the intestines, and incision of the posterior peritoneum over the sympathetic chain as it passes along the psoas muscles. The second, third, and fourth lumbar ganglia and communicating branches are completely removed, the procedure being unilateral or bilateral, as the situation demands. Dorsal ganglionectomy is accomplished through a posterior approach in the cervicodorsal region with removal of a small portion of the second rib just lateral to its vertebral attachment. The sympathetic chain is exposed along the costovertebral angle and the first and

second thoracic ganglia, and their communications are removed. These procedures have been of value in the relief of pain associated with vascular disorders, such as Raynaud's and Buerger's diseases, in certain types of painful ulcers of the extremities, in angina pectoris, and in some types of arthritis. The relief of pain, of course, represents only one phase of the application of sympathectomy.

Periarterial sympathectomy, or the stripping of the sympathetic fibers from the large arteries, has been employed to relieve pain in causalgias and cases of arteriosclerotic gangrene, as well as in the vascular diseases mentioned above. The results have not been of uniform satisfaction, and the operation at present is not extensively used.

Neurectomy, or the interruption of various peripheral nerves, has been used to relieve pain in many conditions. I refer here particularly to a most distressing condition known as causalgia, often seen after trauma to peripheral nerves, and accompanied by terrific burning sensations over the course of the nerve. Neurectomies are used in some neuralgias, for pain associated with amputation stumps, in cases of meralgia paresthetica, and for certain painful malignancies. In some cases, immediate resuture following the division of the nerve is done when one is dealing with a combined motor and sensory nerve.

During recent years a syndrome of severe pain about the neck and shoulders, and often referred down the arm, has been receiving considerable attention. This condition amounts to a mechanical or irritative type of neuritis which, in some instances, is associated with a cervical rib, but in many cases no rib is present. For this reason the diagnosis is frequently overlooked when no cervical rib is found. The operative treatment consists of a division of the scalenus anticus muscle, freeing the brachial plexus from any impingement that a cervical rib or tense scalenus muscles may be producing. Relief of pain is striking and permanent in conditions of this kind.

The subarachnoid injection of alcohol for the relief of pain has been used for the past few years. This procedure has been utilized with some success in cases of pelvic malignancy, and in painful conditions affecting the lower extremities. It consists of a careful injection of from .5 to .75 of a cubic centimeter of absolute alcohol into the subarachnoid space through the lumbar interspaces, varying from the first to the fourth. The affected side is placed uppermost and the hips are slightly elevated, allowing the alcohol to float on the spinal fluid up around the nerve roots, where its action is predominantly on the sensory elements. Occasionally, transient disturbance in the bladder or slight motor disturbances have occurred, though these have cleared up rapidly in almost all instances.

Each patient presents an individual problem, and it is unwise to recommend any of these procedures routinely without careful study of the disease as well as the patient himself. In view of the constantly increasing number of measures which are available for the surgical relief of pain, such chronic severe pain which does not respond to ordinary therapy certainly requires a careful consideration of these measures.

Federal Food and Drug Administration.—Short weight is one of the commonest violations of the Food and Drug Act. Last month five interstate shippers of foods and stock feed were fined a total of more than $500 for this type of offense. . . .

Seventeen patent medicines bearing false and fraudulent medicinal claims were seized during July, the Administration reports. Their names and the label claims alleged by the Government to be unfounded are: "Atholin," a perfumed solution of benzoic acid, salicylic acid, boric acid, aluminum chlorid and thymol in alcohol in water, offered for pimples, acne, and eczema; "Dr. Ehrlich's Nerve Tonic and Sedative," composed of phenobarbital, sodium and ammonium bromids, and water, for restoring and strengthening the nervous system, to tone the stomach muscles, create vigorous appetite and proper digestion; "Dr. Ehrlich's Tonic and Blood Purifier," containing methenamin, iron, potassium iodid, plant extractives and syrup, for rheumatism, neuritis, backache, and as a blood purifier; "Dr. Ehrlich's Kidney and Bladder Medicine," containing methenamin, iron, laxatives and water, for kidney and bladder ailments; "Hem-O-Rem," containing plant extractives, alcohol and water, for hemorrhoids; "Dr. Hubbel's Formula," composed of alcohol, water, chloral hydrate, creosote, sulphuric acid and menthol; for loose teeth, toothache, sore and bleeding gums and gingivitis (the libel further charged a violation of the legal requirement to declare chloral hydrate and alcohol, the declaration being incorrect because understated in the former instance, and lacking in the latter); "Kelp-A-Malt," essentially kelp, sugar, malt extract, cocoa, salt and saccharin, for skin and stomach troubles, anemia, nervousness and women's ailments; "Moone's Emerald Oil," described as a germicide when in fact it was incapable of killing common germs, offered for varicose veins, varicose ulcers, toe itch, and muscle, joint and nerve conditions; "Nature's Vital Food," containing ground herbs, rhubarb, sarsaparilla, podophyllum mullein, senna, water and salicylic acid, for cancers, tumors, ulcers, boils, scrofula, syphilis and all diseases arising from impure blood; "Oceanic Vitex," essentially seaweed, for headache, neuralgia, neuritis, nervous prostration, low vitality, anemia, indigestion, liver and kidney troubles, glandular disturbances, goiter, asthma, eczema, low blood pressure, catarrh, colds and influenza; "Quan-Da-Sac," consisting of petrolatum, a coal tar product and a volatile oil such as camphor, for rheumatism, deep-seated inflammation, coughs, congestion, sores, lameness, lumbago, pleurisy, bronchitis, croup, quinsy, skin affections, neuralgia and boils; "Savoy Beef Iron and Wine," for debility, exhaustion and impoverishment of the blood; "Slim," containing dinitrophenol and labeled as a safe means of weight reduction, which was untrue; "Udga Tablets," composed of baking soda, bismuth, magnesia, starch and saccharin, for acidosis, gastritis, nausea, indigestion, stomach ulcers and acid dyspepsia; "Vegetrate," tablets consisting of calcium carbonate with small amounts of laxatives, vegetable extractives and vegetable substance, for hyperacidity and deficiency diseases; "Wag's Salve," composed of petrolatum, wintergreen oil and menthol, for croup, catarrh, pheumonia, tonsillitis, chest colds and sore feet; and "Wa-Hoo Bitters," containing plant extractives, gentian, Epsom salts, salicylic acid and water, for bowel, kidney and liver disorders.

A consignment of so-called "Epsom Compound Tablets" was seized because the product was found to depend for its laxative effect upon phenolphthalein (a coal-tar product) and aloes; and "Xlent Rubbing Alcohol" was libeled when analysis showed the product to contain isopropyl alcohol rather than grain alcohol. Other drugs seized included fifteen cylinders of substandard nitrous oxid (laughing gas), substandard tincture of aconite, short weight local anesthetics in ampoules, and a consignment of eight deteriorated pharmaceuticals shipped by a salvage drug dealer in Texas.

CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section (Adv. pages 2, 4 and 6).

CALIFORNIA MEDICAL ASSOCIATION

ROBERT A. PEERS.....President
EDWARD M. PALLETTE.....President-Elect
FREDERICK C. WARNSHUIS.....
Secretary-Treasurer and Associate Editor for California

STATE AND COUNTY SOCIETY ACTIVITIES

ADVERTISEMENTS

It is quite important that members be reminded from time to time regarding the necessity of patronizing the advertisers who contract for space in this your official publication. Were it not for this income your Publication Committee and editor would be unable to send you a journal of such outstanding value and merit as is CALIFORNIA AND WESTERN MEDICINE. There is no other state journal that is comparable in size and content to this, your journal.

Your advertisers are firms that have reputations for fair dealing and their products are of merit and high quality. Everything else being equal they are entitled to your preference in placement of orders. The alphabetical index of advertisers is printed in each issue on page 8 of the front advertising section. Consult it.

Therefore, members are urged to deal with our advertisers and to respond to their solicitations. Additional support can be subscribed if members will ask the salesmen who call upon them whether their firm utilizes advertising space in your state journal. This coöperation is solicited from every member.

* * *

NARCOTIC LAW VIOLATIONS

An inspector of the Narcotic Enforcement Division has transmitted the following incidents:

An increasing number of physicians fail to observe the narcotic laws of the State when prescribing narcotics. Every licensed physician will find a copy of the law in the roster of the State Board of Medical Examiners. Five amendments were adopted by the last legislature.

Care is not being observed in writing prescriptions. There are physicians who will write prescriptions for narcotics for anybody and for any quantity.

Records are not being kept.

Addicts play upon the sympathy of a physician by means of many wiles and secure several prescriptions and then work another physician in the same manner.

Addicts have been given ten or twelve prescriptions and the physician fails to make a report.

Order-forms for stock supplies are given to addicts.

Prescriptions are written for fictitious persons at addresses that cannot be found.

A number of other infractions are related.

The enforcement division does not desire to work a hardship upon the profession, but it cannot condone or ignore flagrant violations. The Division inspectors feel that members of the profession should become fully informed as to the provisions of the law and be guided accordingly.

County societies might well invite these inspectors to address their county meetings in order that their members become enlightened as to their rights and limitations in prescribing narcotics.

YOU ARE THE CAUSE

"At regular intervals from varied sources comes the inquiry why 'something isn't done' about this or that. . . .

"Solutions are not born of the moment. Many problems will never be solved or adjusted until every doctor relinquishes the argumentative attitude for one of coöperative action and support.

"If you render services at a discount or a split of the regular fee; if you serve in a clinic or dispensary where persons able to pay receive free service; if you are filling out insurance certificates for no fee; if you are failing to practice preventive medicine and stand by while parents take their children to health clinics; if you neglect to cultivate and enlighten your senator and representative—if—well, if you fail to play an active part in your county society and your community you will find the answer is because of *you*. If all the 'you's' would rally in support of their county society, satisfactory solutions would be attained. Will 'you' get busy? Will 'you' go to work?"

The foregoing was recently printed in the San Diego County Medical Society Bulletin. It might be well for every county to repeat this in their bulletin. Likewise, remember:

"Now this is the law of the Jungle—as old and as true as the sky!
And the wolf that shall keep it may prosper.
But the wolf that shall break it must die.
As the creeper that girdles the tree-trunk, the law runneth forward and back.
For the strength of the Pack is the wolf, and the strength of the wolf is the Pack."

* * *

ITEMS OF INTEREST

1. Minutes of the September Council meeting, contained in this issue.
2. Minutes of the Committee on Public Relations, contained in this issue.
3. College of Surgeons and Surgical Congress annual session in San Francisco, October 28 to November 1, 1935.
4. First Public Health Institute in Oakland, November 4 and 5.
5. Annual Conference of State Secretaries and Editors in Chicago, November 15 and 16.
6. Annual meeting of the Pacific Coast Obstetrical and Gynecologic Association meeting in Los Angeles, November 6-8.
7. Special Council meeting November 2 to consider hospital insurance.
8. Refer to the September issue for statement as to the Association's attitude in regard to x-ray and pathologic laboratories that are operated by hospitals.
9. Council requests that members submit to the State Secretary their opinions and recommendations in regard to a State policy and attitude toward a plan of hospital insurance under the provisions of Assembly Bill 246 that became a law on September 15. The Council will be guided at its meeting on November 2 by the wishes of the members.

* * *

WHAT'S DOING?

Answer to this question may be found in CALIFORNIA AND WESTERN MEDICINE. Its editorials and departments transmit each month "What's doing." The minutes of the Council, Executive Committee, and of standing committees will inform the member as to the many

activities that are sponsored by and that are the concern of this Association. Reports of county society meetings enlighten the reader as to what is being done in county organization. Your official publication is your source for authentic official information. Read it diligently every month.

* * *

STAND BY

In the early days of broadcasting, "Stand By, Please" was a frequent request as station operators manipulated their dials between program changes. "Stand By, Please" is the request that is now being broadcast to every member of our Association for the period that marks an epochal change in our program that is related to the public. In this interval, please do not dial around for other stations or programs.

The assurance is given that instructed committees, your Council and officers, are intently and intensely busy in formulating principles, policies, and programs. Our organization is not a statical organization. We are not afraid to make changes which, by the way, seems to be the reason for "taboos" that have come from eastern sources. Changes must be made, for we are in the midst of social and governmental changes. Fundamentally, we cannot endure if we insist on a strict perpetuation of the order of yesterdays. We must plan for many tomorrows with a wisdom that results from sound thinking.

Hugh Cabot recently wrote: "The solution will require good-tempered, patient and receptive discussion by groups of experts, and in the field of medicine physicians can supply the evidence but they cannot be expected to supply the mature judgment in the economic, social and financial fields, which will obviously be important and probably essential to success. Too often in discussions which have taken place, particularly in this country, and during the last ten years, these requirements have been lacking. Too often one group has become impatient with the other."

Hence we repeat, "Stand By" till the "essence of facts and conditions can be extracted" and wisdom and sound thinking can be mobilized into sound action.

* * *

FEDERAL AND STATE MEDICAL RELIEF

(Copy of telegram from A. M. A.)

September 19, 1935.

Dr. F. C. Warnshuis,
450 Sutter Street,
San Francisco.

Information from Washington that it is intention of Administration to discontinue all federal direct relief, including medical relief, on November 1, and that it is assumed by Administration that State relief agencies will continue some medical relief financed from State funds. Hope to secure additional information for transmission to state secretaries within day or two. OLIN WEST.

* * *

STANFORD UNIVERSITY POSTGRADUATE COURSES

September 19, 1935.

My dear Doctor Warnshuis:

In reply to your letter of September 16 concerning the postgraduate courses given at Stanford University School of Medicine this year, I submit the following report:

Courses were given in: cardiology; diseases of the chest; obstetrics and gynecology; medical aspects of syphilis and its treatment; proctology; surgical anatomy, with special reference to operative approach and technique; ophthalmology.

These courses were given every day for one-half day each so that each participant might take a morning course for four days and an afternoon course for four days, except in ophthalmology. This course was limited to specialists only and extended from 8:30 a. m. to 3:30 p. m. In addition, there were three general meetings held in the evenings from 8 to 10. The first meeting covered glandular diseases and their treatment, the second meeting covered gastro-intestinal disease, and the third meeting covered nephritis and hypertension.

One hundred and forty-nine physicians took these courses, the registration being distributed as follows

	Enrolled
Cardiology	38
Diseases of the chest	14
Obstetrics and gynecology	75
Medical aspects of syphilis	25
Proctology	71
Surgical anatomy	29
Ophthalmology (specialty)	13

The attendance at these courses came from the following localities:

Alameda County	13
Butte County	1
Contra Costa County	2
Fresno County	6
Imperial County	1
Kern County	5
Kings County	1
Los Angeles County	52
Marin County	2
Mendocino County	1
Merced County	1
Monterey County	3
Nevada County	1
Orange County	3
Riverside County	1
Sacramento County	5
San Bernardino County	2
San Diego County	4
San Francisco County	9
San Joaquin County	7
San Mateo County	3
Santa Barbara County	3
Santa Clara County	4
Santa Cruz County	3
Siskiyou County	1
Solano County	2
Sonoma County	3
Stanislaus County	3
Tuolumne County	2
Ventura County	1
Nevada (State of)	1
Utah (State of)	2
Oregon (State of)	1

These courses were very well received and the participants uniformly expressed their pleasure and satisfaction at having attended the courses.

Very truly yours,
L. R. CHANDLER, M.D.

* * *

HOW GRIEVANCES ARE DEALT WITH UNDER THE ENGLISH HEALTH INSURANCE SCHEME

(This article, reprinted from the August 29 issue of the *New England Journal of Medicine*, appears in this issue in the Miscellany department, on page 317.)

* * *

COUNCIL MINUTES*

Minutes of the Two Hundred and Thirty-Eighth Meeting of the Council of the California Medical Association

The following minutes were approved by the Council by mail vote.

SATURDAY, SEPTEMBER 7, 1935

Held in the Lounge of the Los Angeles Medical Association building, 1925 Wilshire Boulevard, Los Angeles, Saturday, September 7, 1935.

1. **Call to Order.**—The meeting was called to order by the chairman, T. Henshaw Kelly, with the following members present: Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; W. W. Roblee, speaker; T. Henshaw Kelly, chairman; Councilors Morton R. Gibbons, Karl L. Schaupp, C. L.

* The minutes of the two hundred and thirty-seventh meeting of the Council of the California Medical Association were printed in the August, 1935, issue of CALIFORNIA AND WESTERN MEDICINE, page 162.

Emmons, Carl L. Howson, Henry J. Ullmann, A. E. Anderson, Alfred L. Phillips, O. D. Hamlin, C. E. Schoff, Harry H. Wilson, C. O. Tanner, William H. Kiger, J. B. Harris; Chairman of Public Relations Committee Charles A. Dukes; Editor George H. Kress; Secretary-Treasurer F. C. Warnshuis; and General Counsel Hartley F. Peart.

Absent: Dr. Henry S. Rogers.

2. **Financial Statements.** — The secretary presented the financial statements for the months of July and August, 1935.

Moved by Councilor Kiger, seconded by Councilor Hamlin, that the financial statements for the months of July and August, 1935, be approved. Carried.

3. **Hospital Service.**—On motion of President Peers, seconded by Chairman of Public Relations Committee Dukes, and carried, the order of business was revised to permit the discussion of hospital service and Assembly Bill 246 as the first order of business.

Doctor Hamlin outlined the plan of the Alameda County Medical Association to provide hospital service only, through the various hospitals in Alameda County. It was stated that the service did not include pathologic, roentgenologic, or other medical service.

Moved by President Peers, seconded by Councilor Schaupp, that the Alameda County Medical Association's proposal to institute a hospital service as outlined by Doctor Hamlin meets with the favor of the Council, it being understood that the plan proposed will not include pathologic, roentgenologic, or any other medical service. Carried.

Detailed discussion of Assembly Bill 246 and the hospital and medical service plans offered by various organizations was had.

It was suggested that when the plan of the Ala-Meda County Hospital Association was complete, details should be presented to the office of the California Medical Association so that it might be studied by the Department of Public Relations.

The advisability of a state-wide hospitalization plan was discussed.

4. **Recess of Council.**—At this point a recess of the Council was declared for luncheon.

5. **Call to Order.**—The Council was called to order after the recess, by the chairman.

6. **Hospital Service.**—Further discussion was had regarding the establishment of a state hospital insurance plan under Association sponsorship.

Moved by Councilor Kiger, seconded by Councilor Ullmann, that the Council instruct the Committee on Public Relations to study the matter of the application of Assembly Bill 246 to hospital insurance by a state-wide organization together with the possible cost of such a plan operated by the California Medical Association and a type of plan for county administration of hospital insurance without medical service, and to report as soon as possible to the secretary and that the secretary be instructed to furnish a copy of the report of each councilor. Carried.

Moved by Speaker Roblee, seconded by Councilor Ullmann, that the Council send a communication to each county society calling attention to this bill, enclosing copy of Assembly Bill 246, and advise them that the Council considered the matter and feels that it is of great importance and that the Council requests that the county societies investigate the situation in their local districts and make any suggestions that they desire to the office of the secretary, and further that the Committee on Public Relations will aid the county societies wherever possible, upon request. Carried.

Possible suggested standards for the administration of hospital insurance corporations under Assembly Bill 246 were informally discussed.

Moved by Editor Kress, seconded by Councilor Gibbons, that a copy of the informal suggestions relative to these standards be sent to each member of the Council and the Committee on Public Relations with the request that they forward any suggestions that occur to them to the secretary of the Association. Carried.

7. **Date of Council Meeting.**—Moved by Councilor Kiger, seconded by Chairman of Public Relations Committee Dukes, that a special meeting of the Council be called for November 2, 1935, at San Francisco. Carried.

The chairman of the Committee on Public Relations stated that a meeting of the Public Relations Committee would be held prior to the date of the Council meeting for consideration of the hospital insurance plan.

8. **Committee on Disciplinary Procedures.**—It was reported that the Committee on Disciplinary Procedures had met and formulated a number of recommendations for submission to the House of Delegates at the next annual session and incorporation in the Constitution and By-Laws.

The ethics of disposing of professional services to county hospitals was discussed.

Moved by Speaker Roblee, seconded by Councilor Ullmann, that the following resolution be adopted:

WHEREAS, It has come to the attention of the Council that certain members of our Association are engaging in the practice of disposing of their professional services to county hospitals and to certain lay organizations for a definite sum for an unknown amount of work; and

WHEREAS, These practices are not confined to their own county but extend to other counties and localities, thereby constituting competitive practices that are in violation of Article VI, Section 2 and Section 4, of the Principles of Professional Ethics, which set forth the following:

"It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

"By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or a fixed rate per capita.

"Contract practice *per se* is not unethical. However, certain features or conditions if present make a contract unethical, among which are: (1) When there is solicitation of patients, directly or indirectly. (2) When there is underbidding to secure the contract. (3) When the compensation is inadequate to assure good medical service. (4) When there is interference with reasonable competition in a community. (5) When free choice of a physician is prevented. (6) When the conditions of employment make it impossible to render adequate service to the patients. (7) When the contract, because of any of its provisions or practical results, is contrary to sound public policy.

"Each contract should be considered on its own merits and in the light of surrounding conditions. Judgment should not be obscured by immediate, temporary or local results. The decision as to its ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole."

"It is unprofessional for a physician to dispose of his professional attainments or services to any lay body, organization, group, or individual, by whatever name called, or however organized, under terms or conditions which permit a direct profit from the fees, salary or compensation received to accrue to the lay body or individual employing him. Such a procedure is beneath the dignity of professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy"; now, therefore be it

Resolved, That the Council of the California Medical Association records its disapproval of such practices on the part of its members; and be it

Resolved, That the officers of the county societies where such practices are being conducted shall present to the officers of the county society of which these individuals who engage in such practices are members, information as to such violations and that they use their offices to secure an abatement of such unethical conduct; and be it further

Resolved, That instances of such practices be also reported to the State Secretary, who is hereby instructed to transmit this resolution to all constituent county societies and the State Board of Health, and under the instructions of the Executive Committee of the Council to bring about a strict observance of the Principles of Ethics that proscribe such practices. (Carried.)

9. **Committee of Five.**—The secretary of the Association reported on the present status of the survey conducted under the direction of the Committee of Five, and read the audit of accounts of the committee as prepared by Haskins & Sells, certified public accountants. The secretary stated that outstanding liabilities at the present time amounted to $2,647 and that a request had been received from Doctor Dodd for payment.

All members of the Auditing Committee being present, a meeting of the committee was had, the expenses of the Committee of Five studied and approved for payment, subject to approval by the Council.

Moved by Chairman of Public Relations Committee Dukes, seconded by President Peers, that the outstanding bills of the Committee of Five, amounting to $2,647, be paid. Carried.

The secretary stated that Doctor Dodd had stated that the final report would be ready on September 15, 1935.

Moved by Editor Kress, seconded by Chairman of Public Relations Committee Dukes, that the agreement between Doctors Molony and Wilson (and Doctors Kilgore and Peers by proxy), representing the Committee of Five, and Professor Paul A. Dodd, under date of July 28, 1935, be approved and that the secretary of the Committee of Five be requested to formally write Professor Dodd stating that the committee expects to receive the report on September 15, 1935. Carried.

The matter of publication of the report was deferred pending receipt of the final report.

A letter from the Medical Problems Group of San Francisco asking for copies of the data obtained by the survey was read.

SUNDAY, SEPTEMBER 8, 1935

11. **Call to Order.**—The adjourned meeting of the Council was called to order by the chairman, T. Henshaw Kelly, with the following members present: Doctors Robert A. Peers, president; Edward M. Pallette, president-elect; T. Henshaw Kelly, chairman; Councilors Morton R. Gibbons, C. E. Schoff, Karl L. Schaupp, C. L. Emmons, Carl L. Howson, Henry J. Ullmann, C. O. Tanner, W. H. Kiger, J. B. Harris; Chairman of Public Relations Committee Charles A. Dukes, Editor George H. Kress, Secretary F. C. Warnshuis, and General Counsel Hartley F. Peart.

Absent: Speaker W. W. Roblee, Councilors K. L. Schaupp, O. D. Hamlin, and H. S. Rogers.

12. **Professional Ethics.**—Communications from the San Diego County Medical Society regarding a point of professional ethics were read, and the matter was referred to General Counsel Peart.

13. **Practice of Radiology and Pathology in Hospitals.**—The secretary submitted a report on the replies received in answer to the resolution adopted by the House of Delegates at Yosemite on the practice of radiology and pathology in hospitals. A letter from the Ross General Hospital was read.

Moved by President-Elect Pallette, seconded by President Peers, that the chairman of the Council and the secretary be authorized to reply to the Ross General Hospital letter. Carried.

14. **Constitution and By-Laws.**—The secretary submitted a report on printing costs of the Constitution and By-Laws including amendments, and suggested that since further amendments were to be submitted at the next annual meeting, reprinting be deferred.

Moved by President-Elect Pallette, seconded by President Peers, that the reprinting of the Constitution and By-Laws be deferred until after the Coronado meeting. Carried.

It was suggested that the secretary have the amendments to date printed and a copy be sent to each officer, councilor, and each county medical society for inclusion in their copies of the Constitution and By-Laws.

15. **Committee on Medical Education and Medical Institutions.**—A letter from Doctor Dock submitting his resignation as a member of the Committee on Medical Education and Medical Institutions was read.

Moved by President-Elect Pallette, seconded by Chairman of Public Relations Committee Dukes, that the resignation of George Dock be accepted with thanks, and that B. O. Raulston of Los Angeles be appointed a member of the Committee on Medical Education and Medical Institutions. Carried.

16. **Hunter Educational Service.** — Publicity proposed by the Hunter Educational Service was discussed.

Moved by Councilor Gibbons, seconded by Councilor Tanner, that this service encroaches upon the domain of the Public Relations Department and that it be referred to the Committee on Public Relations for study and report. Carried.

17. **Arrangements Committee.** — Letter of the San Diego Society suggesting names of committeemen for the Arrangements Committee of the annual session was read.

The secretary was instructed to inform the San Diego Society that the matter of press publicity had always been in the hands of the Council of the Association and that the Association desired to continue this practice.

18. **Medical Publications, Inc.**—The activities of the Medical Publications, Incorporated, were discussed by the Council and it was moved by Councilor Ullmann, seconded by Councilor Phillips, that the Council disapprove the activities of this organization. Carried. County societies to be so informed.

19. **Summer Round-Ups.**—Resolution of the Placer County Society regarding summer round-up of preschool children was presented to the Council and informally discussed. No action taken.

20. **Proceedings of Annual Session.** — After discussion, President-Elect Pallette moved, seconded by Councilor Harris, that the Master Reporting Company be employed to report the transactions of the Coronado session at a cost of $350. Carried.

21. **Membership.**—Letter from the American Medical Association stating that J. Tracy Melvin and Victor Vecki were eligible for affiliate fellowship was read.

Moved by President Peers, seconded by Councilor Harris, that J. Tracy Melvin of Porterville and Victor Vecki of San Francisco be nominated by the California Medical Association for affiliate fellowship in the American Medical Association. Carried.

22. **W. B. Mayo Laboratories, Inc.**—The activities of the W. B. Mayo Laboratories, Inc., were discussed.

Moved by Councilor Gibbons, seconded by Councilor Anderson, that the secretary and the general counsel be instructed to write up a resolution disapproving this type of organization and that a copy be sent to all component county secretaries. Carried.

23. **Medical Society of the District of Columbia.**—The secretary was instructed to send copies of the correspondence presented from the medical society of the District of Columbia to each member of the Council and to place the matter on the docket for consideration at the next meeting of the Council.

24. **Basic Science Law.**—George H. Kress, chairman of the Committee on the Basic Science Act, submitted a progress report for his committee.

On motion of Editor Kress, seconded by President-Elect Pallette, the following resolution was adopted:

WHEREAS, It is a well-established principle in law that no person shall be permitted to have legal sanction to hold himself before the public as a practitioner of the healing art, unless he has previously given satisfactory evidence to the constituted public authorities that he has had training and experience adequate to practice such profession; and

WHEREAS, Certain fundamental or preliminary education has been shown to be most necessary in the proper training of practitioners of the healing art, no matter to what schools belonging; and

WHEREAS, In commonwealths such as California, which possess multiple healing art examining boards, the legal requirements demanding basic preliminary education for all legally recognized schools of healing, are particularly needed; and

WHEREAS, A Qualifying Certificate (so-called Basic Science) Law would be of great value in protecting the health and lives of the citizens of California, as well as in promoting the educational and training standards of healing-art schools of the State; now, therefore, be it

Resolved, That the California Medical Association through its House of Delegates and Council herewith goes

on record in favor of a law that will provide for a Qualifying Certificate Examining Board for the State of California, the proposed Act to be submitted to the electorate as an initiative law in the State election of 1936; and be it further

Resolved, That the executive group of the Special California Medical Association Committee on Qualifying Certificate Law (Doctors George H. Kress, Morton R. Gibbons, J. B. Harris, and Edward M. Pallette, with Association Secretary Warnshuis as its secretary), which special committee has been studying the subject for the last ten years, is herewith instructed and authorized under the direction of the Council, to proceed with the drafting of such an initiative law, the preparation of plans to secure the signatures necessary to place the proposed Act on the ballot of the State election to be held in November, 1936, and to have general supervision of publicity and other needed work in connection therewith.

25. **General Counsel.**—The general counsel reported on the cases of *Francis* vs. *Nelson* and *Goodall* vs. *Brite*.

Mr. Peart stated that formal application for the advancement of the hearing of the case of *Goodale* vs. *Brite* was being made.

26. **California and Western Medicine.** — Discussion was had of the allocation of annual dues made to the JOURNAL.

Moved by President-Elect Pallette, seconded by Councilor Phillips, that in view of the lessened income from advertisements in CALIFORNIA AND WESTERN MEDICINE, which has taken place in the last four years of general financial depression, that the allocation of annual support from the membership dues which was instituted some years ago be now changed by the Council and that $3 per member per year be allocated to subscription income of CALIFORNIA AND WESTERN MEDICINE. Carried.

27. **Poll on Health Insurance.**—The request of the Sacramento Society for a poll of physicians on the matter of health insurance was discussed in detail.

Moved by Chairman of Public Relations Committee Dukes, seconded by Councilor Harris, that the Sacramento Society be requested to appoint a committee to appear before the next Council and discuss the matter of a poll of physicians on health insurance. Carried.

29. **Tax-Supported Hospitals.**—Councilor Anderson, chairman of the Committee on Tax-Supported Hospitals and Medical Service presented an outline for the activities of the committee.

The secretary was instructed to send a copy of the outline to each member of the Council with a request for suggestions, such suggestions to be sent to Doctor Anderson direct as chairman of the committee.

30. **Adjournment.**—There being no further business to come before the Council the meeting adjourned.

T. HENSHAW KELLY, *Chairman.*
F. C. WARNSHUIS, *Secretary.*

COMPONENT COUNTY MEDICAL SOCIETIES

PLACER COUNTY

The Placer County Medical Society held its August meeting at the Freeman Hotel, Auburn, Tuesday evening, August 20. The meeting was called to order by President Louis E. Jones.

There were present the following members: Doctors L. B. Barnes, H. N. March, R. C. Atkinson, J. Gordon Mackay, Robert A. Peers, Lucas W. Empey, C. E. Lewis, and Max Dunievitz; and Miss Ruth B. Brandt, area case work supervisor, under District Administrator Maddox of SERA for Placer, Nevada, and Sierra counties.

Before taking up the regular business of the Society, President Jones introduced Miss Brandt, who explained the present plan for relief and its relation to medical care of persons on relief and those engaged in work projects. There was informal discussion, and Miss Brandt answered questions propounded by the members.

The application of Dr. Bernard W. Hummelt to become a member of the Society was read for the second time and the secretary stated that he had received a favorable report from the State Association. Doctor Hummelt was duly elected to membership.

The application of Dr. Paul S. Phelps of Colfax, for transfer of membership from the Litchfield County Medical Association of Connecticut to the Placer County Medical Society, was read for the second time. It appearing that Doctor Phelps had been practicing in the county for more than six months, he was duly elected as a member of the Placer County Medical Society.

The secretary stated that Dr. Walton Prescott, whose application for membership had been read at the last meeting, had left Placer County and is now engaged in practice in Alameda County. Doctor Prescott's application for membership was, therefore, withdrawn.

The correspondence on the secretary's desk was read and discussed.

Doctor Empey's resolution on summer round-ups for preschool children, which was presented at the last meeting and laid over until this meeting for action, was introduced. After general discussion the resolution was adopted with a few slight changes.

ROBERT A. PEERS, *Secretary.*

SACRAMENTO COUNTY

A regular meeting of the Sacramento Society for Medical Improvement was called to order by the president, Dr. Orrin S. Cook, the evening of June 18 at the Elks Temple.

Sixty-two members and guests were present.

The president then introduced the speaker of the evening, Dr. Emile Holman, professor of surgery at the Stanford University Medical School. His subject was the *Present Status of Surgery in the Treatment of Pulmonary Tuberculosis, Bronchiectasis, and Neoplasm of the Lung.* He outlined the history of recent developments and illustrated his excellent paper by lantern slides.

The paper was discussed by Doctors Hopkins, Frank MacDonald, and Ruddy.

The applications for membership of Doctors Joseph E. Tillotson, Saverien, and Saeltzer were read for the second time and voted upon. All were unanimously elected to membership in the Sacramento Society for Medical Improvement.

The applications for membership of Doctors Hugh Carmichal and G. A. Prisinzano were read for the first time.

It was moved and seconded that this medical society accept the recommendations of the board of directors regarding the certification of Doctors Reardan and Cook to the Health and Welfare Board of Sacramento County. Passed. Communications were read.

Doctor Wallerius reported on the medical service in the SERA. It was moved and seconded that Doctor Wallerius' report and plan be accepted. Passed. It was moved and seconded that the secretary place the names of all the members of the society on the SERA panel who wish to work under the SERA. Passed.

FRANK WARNE LEE, *Secretary.*

SAN JOAQUIN COUNTY

The regular monthly meeting of the San Joaquin County Medical Society was held in the Medico-Dental clubroom, Stockton, September 5. The meeting was called to order by President C. A. Broaddus at 8:10 p. m.

Preceding the regular meeting a supper meeting was held at the Wolf Hotel at 6:15 p. m. There were twenty-seven members and guests present. Dr. G. H. Rohrbacher discussed his trip to New York and some of the recent work being done on skin diseases there.

Doctor Van Meter reported on the present status of the postgraduate study group.

The application of Dr. George Wever, which had been passed on by the Admissions Committee, was presented to the members. Doctor Wever was duly declared elected.

Dr. D. R. Powell presented the following resolution:

"The members of the San Joaquin County Medical Society, in common with many friends and patients, were shocked and grieved at the tragic accident which befell our fellow member, Tom O'Connor, on July 18.

"The loss by drowning of his only son, Tommy, evokes our sincere and deepest sympathy. Most of us are fathers with sons of our own, and we can appreciate what such a loss means; the thwarted plans, the shattered dreams and dashed hopes, and the heartache that lingers on and on.

"The members of this San Joaquin County Medical Society want our friend and confrère, Tom, to know that we are thankful that his own life was spared and that he has recovered from his injuries, and we desire to herewith express to Mrs. O'Connor, daughter Marjory, and Tom, our collective as well as individual sympathy in their great loss."

Doctor Powell moved that a copy be sent to Dr. Thomas O'Connor and that it be spread on the minutes of the San Joaquin County Medical Society. The motion was carried.

Mr. Fletcher, local administrator of the SERA, told about the new set-up and displayed the various forms that would be used.

Dr. George W. Pierce of San Francisco presented a paper on *Reconstructive Surgery Following Burns*. His paper was profusely illustrated with lantern slides. The paper was discussed by Doctors Broaddus and Rohrbacher.

The topic of Dr. Frank Hinman, professor of urology, University of California, the second speaker, was *Prostatism*, in which he touched on the embryology and types of surgery. The perineal operation for prostatic removal was illustrated by moving pictures presented by Doctor Powell, one of Doctor Hinman's assistants. The paper was discussed by Dr. Verne Ross.

There being no further business the meeting was adjourned at 10:50 o'clock and refreshments were served.

G. H. ROURBACHER, *Secretary*.

SOLANO COUNTY

The Solano County Medical Society held its regular monthly meeting on September 10. The meeting was a dinner meeting held at the Casa de Vallejo in Vallejo. Dr. Ambrose Ryan presided.

The speaker was Dr. Montague Woolf of San Francisco, who spoke on *The Commoner Diseases of the Ano-Rectal Region and Their Treatment*.

The meeting was well attended. The talk, which was accompanied by lantern slides and moving pictures, was very much enjoyed.

A. E. CHAPPELL, *Secretary*.

SONOMA COUNTY

The Sonoma County Medical Society held its September meeting in Santa Rosa on the 12th. A large attendance of medical men, dentists, graduate nurses, and a few lay guests were present.

Dr. F. O. Butler of the Sonoma State Home, president of our society, presided with his usual grace and dignity. Among other speakers, Mr. Ben Read of the Public Health League told of the experiences and efforts of that organization during the session of the last legislature.

Four films, illustrating general, rectal, spinal and intravenous anesthesia, formed the scientific part of the program, followed by a discussion of the subjects by Dr. Henrietta Fredrickson of the staff of the Sonoma State Home.

Routine business was transacted at the close of the scientific program, including the reading of many communications. It was announced that a tri-county meeting with Napa and Solano counties will be held in the Sonoma Mission Inn on October 2, at which time the secretary of the California Medical Association, Doctor Warnshuis, will be present.

W. C. SHIPLEY, *Secretary*.

CHANGES IN MEMBERSHIP

New Members (14)

Alameda County.—Harry N. Akesson.

Butte County.—Willard W. Carey, George W. Hemminger, Charles C. Landis.

Los Angeles County.—Denver D. Coleman, Donald C. Collins, Robert R. Dockweiler, G. O. McKeehan.

San Francisco County.—Donald M. Campbell, Florence L. Fouch.

San Joaquin County.—George K. Wever.

Santa Barbara County.—Francis McRae Findlay, J. Jerome Rupp.

Santa Clara County.—Earl F. Roth.

In Memoriam

Barkan, Adolph. Died at Zurich, Switzerland, August 28, 1935, age 90. Graduate of Medizinische Fakultät der Universität, Wien, 1866. Doctor Barkan was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

✝

Bill, Philip August. Died at San Francisco, August 27, 1935, age 55. Graduate of the University of California Medical School, San Francisco, 1902, and licensed in California the same year. Doctor Bill was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✝

Blanchard, Lynne Harry. Died at Oakland, September 5, 1935, age 63. Graduate of the University of Vermont College of Medicine, Burlington, Vermont, 1895. Licensed in California in 1926. Doctor Blanchard was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✝

Cohn, David. Died at San Francisco, August 3, 1935. Graduate of Friedrich-Wilhelms Universität Medizinische, Fakultät, Berlin, Prussia, 1861. Licensed in California in 1876. Doctor Cohn was a retired member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

✝

Cole, George Llewellyn. Died at Los Angeles, August 19, 1935, age 74. Graduate of the Bellevue Hospital Medical College, New York, 1886. Licensed in California in 1887. Doctor Cole was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✝

Little, Thomas Coe. Died at San Dego, August 20, 1935, age 61. Graduate of the Creighton University School of Medicine, Omaha, 1896. Licensed in California in 1912. Doctor Little was a member of the San Diego County Medical Society, the California Medical Association, and the American Medical Association.

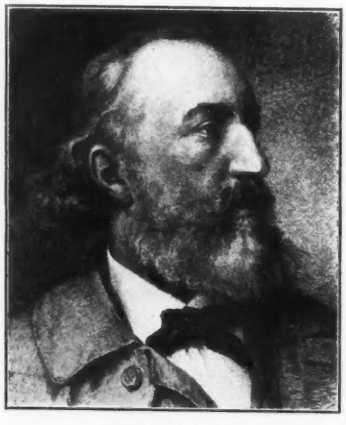
✝

Madden, Thomas Frederick. Died at Fresno, September 8, 1935, age 55. Graduate of Cooper Medical College, San Francisco, 1904, and licensed in California the same year. Doctor Madden was a member of the Fresno County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✝

Rehfisch, John Morse. Died at San Francisco, September 15, 1935, age 42. Graduate of the University of California Medical School, Berkeley, 1915, and licensed in California the same year. Doctor Rehfisch was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES



Adolph Barkan
1845-1935

Following a brief illness Dr. Adolph Barkan quietly passed away in Bühlerhöhe, Germany, on August 28, 1935, in his ninety-first year; the last of that remarkable group of medical men who constituted the faculty of Cooper Medical College, who, in fact, built up that institution—Levi Cooper Lane, Henry Gibbons, Jr., Clinton Cushing, Adolph Barkan, J. O. Hirschfelder, J. H. Wythe, and others.

Doctor Barkan was the most brilliant, most fascinating teacher of the group, but he was much more than a teacher—he was an inspiration to students and faculty alike. Next to his love of his family his one great interest was in medical education.

Born at Eperjes, Hungary, on the southern slope of the Carpathian Mountains, January 8, 1845, Adolph Barkan as a small boy was much affected by the blindness of an aunt. He then and there resolved to devote his life to the assistance of those whose sight was failing, a resolution in which he never faltered.

He had a liberal early education in the public "Gymnasium," in which he devoted much attention to history and the classics. Even in after years he remembered his Horace.

His early university work was done in Vienna, but later he went to Zurich for a year at the time when the great Billroth was one of the teachers in that university. He was thus one of the first students to take advantage of the possibilities of moving from one university to another, even to the consternation of the faculty; a custom, however, which later became common in Germany with great profit to the students, for in recent years students seek the classes of men notable in their specialties instead of being limited to courses offered by the particular university in which they happened to matriculate. He was graduated in medicine by the University of Vienna in 1866.

Even as a boy, Doctor Barkan developed an ambition to come to California in this somewhat amusing way: The family had been the victims of a Cossack raid, which the youngster bitterly resented, for a burly Cossack snatched away the bowl of sour milk which the boy was drinking and drank it himself. In *Gartenlaube,* a German illustrated weekly, young Barkan read about the activities of the Vigilance Committee of the '50's in San Francisco, and said he wanted to go to a country where they did not have Cossack raids.

In his university years he eked out his meager allowance by teaching music. He played the piano well.

Coming to America, he stayed for a year in Baltimore, but in 1869 came to California to practice his specialty of diseases of the eye, ear, nose, and throat. When in 1876 a law was passed regulating the practice of medicine and providing for licensure, Doctor Barkan received license No. 433, dated November 21, 1876. He joined the faculty of the Medical College of the Pacific (later Cooper Medical College) in December, 1872, holding his first clinic in 1873.

In 1881 he married Louise Desepte of Carlsruhe, Baden, Germany. There were four children—Hans, Fritz, Otto, and Fanny. The last is now Mrs. Eric Offermann of Zurich, her husband a teacher in the university in electrical engineering. Fritz is in business in San Francisco. Hans and Otto are worthy successors of their father in ophthalmology, both occupying professorships in Stanford Medical School.

In his work Doctor Barkan made a great point of keeping abreast of the times. This led him to go to Europe frequently, and he would bring home the latest methods and instruments. As a practitioner of ophthalmology, Doctor Barkan was easily first in California. As a teacher he was adored by his students, who were inspired by his enthusiasm.

He did much for medical education, not merely as a teacher in his own specialty, but also in the general field, for he always stood for thoroughness, and, being a student, kept abreast of the development of general medical theory. I remember his reaction to the publication of von Baring's immunization in tetanus and diphtheria. He said, "This marks the beginning of a new era in medicine." And it was so.

I vividly remember one evening at a faculty meeting when Doctor Barkan, walking up and down the room, suddenly and *à propos* of nothing at all, said, "Gentlemen, we must have a professional physiologist." The faculty was electrified and ordered the employment of a full-time, trained physiologist, even before it was clear whence his salary should come. Dr. W. E. Garrey, now of Nashville, Tennessee, was appointed. And again, a few years later, 1898, the scene was repeated even more dramatically: "We must have a pathologist," said Doctor Barkan, and this resulted in the engagement of the late Dr. W. Ophüls.

Realizing the great benefit travel had been to him, he gave $5,000, experimentally, to Cooper College, calling the gift the Teachers' Fund, the purpose of which was to encourage some younger member of the teaching force to go abroad, the income of the fund to help defray his expenses. After Cooper College was absorbed in Stanford Medical School, this fund was transferred to the endowment fund of the Library of Ophthalmology, which Doctor Barkan founded as a department in Lane Medical Library, doubling this endowment. From the very beginning of the Lane Medical Library, Doctor Barkan was a kind of guardian angel of that institution, assisting in its development by his interest, his example, and generous contributions. He gave his own professional library as a nucleus of the Section on Ophthalmology, and, more recently, he gave $10,000 to found a department of the history of medicine in the Lane Library, and was instrumental in the purchase of the Seidel collection of medical historical works, furnishing most of the funds.

Doctor Barkan also made generous contribution to one or two European universities to further certain projects of educational value. The degree of Doctor of Laws was conferred upon him by the University of Glasgow in 1900 and later the title of Ehrensbürger (honored citizen) by the University of Munich.

He was the first to bring the giant Haab magnet to this country for the removal of bits of iron or steel from the eye; he was the first in California to perform the radical operation for mastoiditis, having prepared himself for this work by a course with Staacke.

In his private office he developed a number of men who afterward became prominent in San Francisco—Doctors E. F. Card, A. B. McKee, Stanley Stillman, Albert J. Houston, Wilbur M. Swett, Edward C. Sewall, and William Blake.

He was active in many other directions; for example, he did much for better music in San Francisco, serving for many years as a member of the board of governors of the San Francisco Symphony Association.

He wrote little, though he contributed a number of journal articles on ophthalmological and otological

subjects, chiefly case reports. The indexes contain some thirty-five titles. A popular lecture, which he delivered in Cooper College, entitled "Music as Medicine," created a good deal of interest and was prophetic of much in psychotherapy.

In 1896, when Doctor Lane projected the founding of a course of medical lectures, he commissioned Doctor Barkan to convey his invitation to Professor William Macewen of Glasgow to deliver the first course of Lane Medical Lectures. Needless to say these lectures were of such high quality that the faculty of Cooper Medical College, and later of Stanford, has never had any difficulty in securing as lecturers the most eminent men in the medical profession.

The accompanying portrait etching is of Doctor Barkan toward the end of his years of activity, 1906.

EMMET RIXFORD.

✝

George L. Cole

1861-1935

WHEREAS, Our beloved, kindly and sympathetic member and colleague, George Llewellyn Cole, has passed into the great beyond while in active ministration of service in the greatest humanitarian profession; and

WHEREAS, As professor of therapeutics, professor of clinical medicine in the College of Medicine of the University of Southern California, as a member of the Los Angeles County Medical Association, as one of the founders and one-time president of the Southern California Medical Society, as a councilor of the Los Angeles County Medical Association for many years, as a member of the American Medical Association, and as a member of the American Academy of Medicine, he was honored and respected by students, by colleagues, and patients; therefore be it

Resolved, By the Board of Councilors of the Los Angeles County Medical Association that the sympathy of the members of the Association be extended to his bereaved wife, relatives, and myriad of friends; and be it further

Resolved, That a copy of these resolutions be spread upon the minutes of the Council, that they be printed in the bulletin of the Association, in the journal of the California Medical Association, and that a copy be sent to the bereaved family.

(Signed) W. W. BECKETT, M. D.
J. T. M. ALLAN, M. D.
WILLIAM DUFFIELD, M. D.

✝

Donald Erskine Baxter

1882-1935

Donald Erskine Baxter, Los Angeles; University of Louisville, 1909; assistate superintendent of the Minneapolis Municipal Hospital; director of the Infantile Paralysis Commission, New York City; superintendent of Rockefeller Foundation's Union Medical College, Peking, China; served as major during the World War; decorated by Serbian Government; in private practice in California; founder and president of the Baxter Laboratories; author of several medical works; Fellow of the American Medical Association; member of the Association of Military Surgeons, International Anesthetic Association, American Hospital Association, California Medical Association, Greater New York Medical Association, and Phi Chi; aged 53; died July 30 of cerebral hemorrhage.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS*

More Taxes

A bulletin has been received from the Federal Security Commission that indicates just what we may be called upon to pay in the way of *additional* federal taxes. This additional tax is levied for the purpose of providing funds to finance the President's security program. The law demands that every employer shall make annual tax payments ranging from one to three per cent of the employer's wage payroll.

If you employ a nurse, office secretary, chauffeur, assistant, technician, houseman, stenographer, or any other person, you will be required to pay this federal tax, beginning January 1, 1936.

The federal Treasury Department is empowered to draft rules and regulations. The statement is made that these will be forthcoming before January 1.

Oh well, we can smile openly, but inwardly we have certain repressed opinions regarding legislative and administrative policies and individuals.

* * *

Your Office Girl

From time to time the value of a capable and efficient office receptionist, secretary, or nurse has been extolled. However, few physicians and surgeons realize that an efficient assistant is an important person, a very necessary person in his professional work.

The manner in which your telephone is answered, or a patient is greeted when entering your office may retain that patient's patronage or cause just the reverse.

The promptness with which your statements are sent out will increase your collections. And speaking of collections, an efficient office assistant will increase your cash collections and lessen the amount of credit charges by a tactful manner of approach. An understanding as to the amount of the fee to be paid for an operation or a series of treatments can be arranged by a capable assistant to the pleasing satisfaction of the patient as well as to the physician. A woman and even a man will be more free and frank in discussing her or his financial resources and reach a satisfactory understanding as to the fee if the subject can be discussed with your office assistant. Many persons are reluctant to be frank and open with their physician or surgeon in discussing finances and fees, whereas they will welcome the opportunity to do so if it can be done with your representative—your office assistant.

A tactful assistant will save the physician or surgeon many times the amount of her salary. Very recently a surgeon stated that he never discussed fees or finances with his patient. This phase of his practice was always referred to and handled by his secretary. He stated further that his operative fees were

* The complete roster of the Committee on Public Relations is printed on page 2 of the front advertising section of each issue. Dr. Charles A. Dukes of Oakland is the chairman, and Dr. F. C. Warnshuis is the secretary. Component county societies and California Medical Association members are invited to present their problems to the committee. All communications should be sent to the director of the department, Dr. F. C. Warnshuis, Room 2004, Four Fifty Sutter Street, San Francisco.

frequently paid in advance or arrangements were made that provided for prompt payments.

Many more accruing advantages and accomplishments that result from the services of a capable office assistant can be cited. Space will not permit. We do, however, urge that members pause for serious consideration of this important feature of their practice. Have you a capable office assistant, secretary, or nurse? If not, secure one and then delegate to her the business end of your work, and train her how to meet and deal with your patients. You will experience greater income, large clientele, and fewer financial worries.

* * *

Proposed Million-Dollar Building in Detroit for an Ambulatory Clinic

A Detroit correspondent indicates that California is not alone in its being confronted with economic problems that arise from lay individuals or groups. The following paragraph is of interest:

"Mr. ——— is going ahead with a program which involves the construction of a million-dollar building devoted to the treatment of ambulatory cases. It is not known whether he will build it in connection with the present hospital or in a downtown area. It practically means that he is opening a million-dollar office for the practice of medicine and hiring doctors to do the work. One scarcely visualizes what it means. There is a strong sentiment among the different hospital staffs to do likewise with their respective institutions. The private practice of medicine in this area seems to be about in the same position as the corner grocery man who has to compete with the chain stores. The California doctors are not alone in their struggles."

Similar or other problems confront every state organization, and yet there are those who hold and say that if we conduct ourselves in accordance with traditions we have no need of fear as to the future. They are the ones who, as one officer stated, "Stick their heads in the sand and think their tail feathers are safe." They talk but do not think. Medicine has ever conformed to changing social conditions and trends, rarely, if ever, has it led. There is need for leadership, and the state or county organization that seeks to assume leadership must not be disheartened by the ill-advised comments emanating from certain groups or individuals within their ranks and who reside in distant places.

* * *

Public Health Institutes

By reason of the initiative of the Woman's Auxiliary of Alameda County the first Public Health Institute will be held in Oakland on November 4 and 5. The Auxiliary has enlisted local lay groups and secured representatives to serve on the Committee on Arrangements. The Oakland Auditorium has been secured rental free. Prizes have been announced for the best poster on "health," to be competed for by art students in the county public schools.

Local booths will be prepared by the health department, dental society, hospitals, school nurses, County Medical Association, and the Antituberculosis Society. The California Medical Association, through its Committee on Public Felations, will furnish the following booths: How to live with your heart; appendicitis; child diets; cancer; preventive medicine; plastic surgery; basic sciences; maternal welfare; tuberculosis; nostrums; state health department.

During the day there will be several ten-minute demonstrations by selected members of the County Medical Society. At night a thirty-minute health talk will be given.

This will be the first health institute of a series that are planned for some fifteen or twenty counties in the State. They supplant the Association's Fair exhibits.

The fundamental purpose is as follows: "The purpose of this health institute is to present to the public the fundamental facts of modern scientific medicine for the purpose of building sound public opinion and knowledge relative to the questions of public and private health. This institute is primarily educational, and is based upon the proposition that in a democracy public health is a public concern." By this means the Association hopes to transmit to the public information that will be helpful and of value to the public.

* * *

Malpractice Liability

Legal advisers and insurance companies are calling attention to the liability that a physician or surgeon incurs when he patronizes a laboratory that is operated by an individual or individuals who do not hold a physician and surgeon's license.

Our Association holds that the taking of and interpreting an x-ray picture constitutes the practice of medicine. It is also held that the securing of specimens for pathologic examination and diagnosis is also the practice of medicine and that both procedures can only be done by those who are licensed to practice medicine.

Courts have frequently ruled that a physician and surgeon becomes liable for malpractice if he fails to observe certain practices and procedures. Competent opinions from competent persons is the only testimony admitted as evidence.

The opinion, interpretation, or diagnosis of an unlicensed person cannot be admitted as evidence. Consequently, by way of illustration, if a physician caring for a fracture relies on the services of an x-ray laboratory operated by a person not licensed to practice medicine, he is rendering himself liable. The same holds true in regard to pathologic examinations. Such practices will mitigate against the physician and weaken his defense should he be sued on charges of malpractice.

Our members are advised to use the services of laboratories that are conducted by licensed physicians and surgeons. Refrain from increasing your liability by observing this advice.

Minutes of the September 8 Meeting of the Committee on Public Relations

Held in the Lounge of the Los Angeles County Medical Association Building, 1925 Wilshire Boulevard, Sunday, September 8, 1935, at 9 a. m.

1. **Call to Order.**—The meeting was called to order by Chairman Charles A. Dukes, with the following members present: Doctors Fred B. Clarke, Morton R. Gibbons, Vincent Askey, Junius B. Harris, Edward M. Pallette, Charles A. Dukes, Frederick C. Warnshuis, and General Counsel Peart.

Absent: Doctors John H. Graves, Daniel Crosby.

2. **Activities of Departments.** — The secretary reported on the contacts that had been made with public liabraries and the bibliography of books on medical subjects that had been prepared and furnished these libraries.

Moved by Chairman of Committee on Public Health and Instruction Clarke, seconded by Chairman Industrial Practice Gibbons, that a letter be sent to the Parent-Teacher Association in large cities, calling attention to the fact that a large number of books dealing with problems in which they are interested are being installed in their public libraries; and further that a letter be sent to each component county medical society asking their coöperation in bringing these lists to the attention of the teachers' associations. Carried.

Secretary Warnshuis reported that the first Public Health Institute would be held in Oakland on November 4 and 5, that demonstrations of different phases of medicine and exhibits on disease prevention would be presented during the day and that an outstanding speaker would give a public health lecture in the evening.

It was suggested that the talks describing exhibits, etc., be mimeographed and used by speakers in order to establish a uniformity of information.

The secretary explained the type of projector manufactured by the Spence Lens Company.

Moved by Chairman of Committee on Health and Public Instruction Clarke, seconded by President Peers, that two or three of the Spencer Lens projectors be purchased, if the Public Relations budget permits. Carried.

The secretary reported that speakers for lay and medical society meetings were being compiled and that as soon as the list was complete it would be published in pamphlet form for distribution.

It was suggested that either a synopsis of the speeches be required from speakers or that a meeting of speakers be held and speakers be instructed as to the type of speech desirable.

3. **Public Relations Committee Meeting.**—On motion duly made, seconded and carried, the meeting of the Public Relations Committee was set for Sunday, September 22, 1935, at the Sir Francis Drake Hotel, San Francisco, at 9:30 a. m.

4. **State-Wide Hospitalization Plans and Assembly Bill 246.**—The advisability of a state-wide hospitalization plan in conformity with the provisions of Assembly Bill 246 was brought up. It was the sense of the committee that decision on this point should be postponed until the September 22 meeting of the committee and that in the meantime the secretary, the chairman of the committee, and Mr. Peart draw up a skeleton outline of the relationship which should be established between organizations. It was suggested that the members send in suggestions on hospitalization plans.

5. **Adjournment.**—There being no further business the meeting adjourned.

CHARLES A. DUKES, *Chairman.*
F. C. WARNSHUIS, *Secretary.*

Minutes of the September 22 Meeting of the Committee on Public Relations

1. The Committee on Public Relations met in the Sir Francis Drake Hotel in San Francisco on Sunday, September 22, 1935, at 10:15 a. m. The meeting was called to order by the chairman, Dr. C. A. Dukes, with the following members present: Doctors Robert A. Peers, Edward M. Pallette, Daniel Crosby, Morton R. Gibbons, Mr. Hartley Peart, and Director F. C. Warnshuis.

2. On motion made by Doctor Pallette, supported by Doctor Gibbons, the committee recommends to the Council that no direct endorsement be given to advertising cards that are enclosed in correspondence of members with their patients. After discussion the motion was carried.

3. It was recommended that the director address a communication to Dr. Fred A. Clarke and request him to prepare a set of cards that might meet with the approval of the Committee on Public Relations and the Council.

4. The director made a verbal report of the activities that have been reflected by the Department of Public Relations. Contact has been made with the Nurses' Association, Parent-Teachers' Association, and the Federation of Women's Clubs. All of these lay organizations welcomed a meeting of representatives of the Public Relations Department with their members in order to discuss ways and means by which these organizations may join with the California Medical Association for the purpose of reflecting combined effort and activity in questions relating to health and medical practice in the State. It was suggested by the chairman that when these conferences are held that representatives of the Woman's Auxiliary to the California Medical Association be invited to send representatives to each conference. The director was directed to arrange for a joint conference with the Parent-Teachers' Association before that organization holds its annual meeting. The director was also instructed to arrange a meeting with the California Nurses' Association and the State Federation of Women's Clubs.

5. The director reported on the progress of the Public Health Institutes to be conducted in various centers in the State. The first Health Institute will be held in Oakland on November 4 and 5. The director presented the general object and purpose of the institutes, and on motion of Doctor Crosby, supported by Doctor Gibbons, this was approved.

6. On motion of Doctor Pallette, supported by Doctor Crosby, the director was requested to secure copies of the blanks for examination of school children and preschool children as adopted by the national Parent-Teachers' Association and the American Medical Association, and also to secure the resolutions that establish the principles under which the medical profession will coöperate with the Parent-Teachers' Association and the regulations governing the nature and method of conducting these physical examinations.

7. The director reported that one press release each week has been made to some 250 newspapers throughout the State and that clipping returns indicated that the majority of these papers were publishing these release items.

8. The director presented a communication from the Bureau of Economics of the American Medical Association in regard to material that had been prepared for the debate team groups of high schools and colleges on the subject of health insurance. The Bureau of Economics of the American Medical Association requested an expression as to whether literature asked for in these inquiries should be distributed by that Bureau or whether the Department of Public Relations desired to supervise distribution in California. The director also stated that he was receiving requests for information on health insurance from students in high school and colleges and that the only literature and material in possessoon of the Association was that literature that had been prepared by the Bureau of Economics of the American Medical Association. On motion of Doctor Pallette, seconded by Doctor Gibbons, the director was instructed that, as he received requests for information on health insurance, the material on hand should be sent with the statement that this material was prepared by the American Medical Association.

9. On motion of Doctor Gibbons, seconded by Doctor Crosby, the director was instructed to advise the Bureau of Medical Economics of the American Medical Association that requested information should be sent direct from the Chicago headquarters inasmuch as the California Medical Association does not have a supply of literature on file. After discussion, this motion was carried.

10. The director stated that the Council had referred to the Committee on Public Relations the question of studying Assembly Bill 246, which authorizes nonprofit corporations to issue hospital insurance. The Council further requested that the committee make recommendations to the Council as to what policy and position should be assumed by the California Medical Association. Doctors Frederick Gundrum, Frederick Scatena, of the Sacramento Medical Society, and Mr. Brisbane were present and joined in the general discussion that ensued. On motion of Doctor Pallette, seconded by Doctor Gibbons, this entire question was referred to the chairman and director of the Department of Public Relations, they, in turn, to join with the standing committee of the Association on Hospitals, Dispensaries and Clinics to formulate general purposes and policies for recommendation to the Council. After further discussion, this motion was carried.

11. The director drew attention to the advisability of adding to the membership of the Public Relations Committee Dr. Clarence G. Toland, who is the chairman of the Standing Committee on Postgraduate Instruction. On motion of Doctors Crosby and Peers, the director was instructed to invite Doctor Toland to join with the Committee on Public Relations in their deliberations and that an amendment to the by-laws would be prepared and presented for adoption at the meeting in Coronado, which amendment will provide for the enrollment of Doctor Toland as a full member of the Committee on Public Relations.

12. The director was instructed to arrange for a joint meeting of the Committee on Hospitals, Dispensaries and Clinics with the chairman and the director of this committee, the meeting to be held in San Francisco on Sunday, October 6, 1935.

13. After a general discussion regarding certain features of hospital insurance, participated in by Doctors Crosby, Gundrum and Scatena, and the committee, this meeting adjourned at 3:15 p. m., subject to the call of the chairman.

C. A. DUKES, *Chairman.*
F. C. WARNSHUIS, *Director.*

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

MRS. THOMAS J. CLARK.....President
MRS. ELMER BELT.....Editor and Chairman of Publicity

State Auxiliary News

September Board Meeting. — The State Auxiliary's work for the year, assigned to the various committee chairmen at the post-convention board meeting in Yosemite, has made fine progress during the intervening months. At the second meeting of the State board, held September 5 at the Lake Merritt Hotel in Oakland, Mrs. Thomas J. Clark, the State president, received reports of detailed plans and actual accomplishments. This is the California Auxiliary's seventh year, and Mrs. Clark, in welcoming her official family, stressed the fact that the organization has come of age. Its aims are clearly defined, its plans are thoughtfully designed, and the members for its posts are chosen for their ability to carry on their official duties.

Of the eighteen members of the State board only four were absent. Those attending were: State officers, Mrs. Thomas J. Clark, Mrs. Andrew J. Thornton, Mrs. William H. Sargent, Mrs. John V. Barrow, Mrs. C. Kelly Canelo, Mrs. David E. Froehlich, and Mrs. Frank Makinson; the district councilors, Mrs. Eliott G. Colby, Mrs. Elmer Belt, Mrs. F. J. Conzelmann, Mrs. John Hunt Shephard, and Mrs. S. N. Weil; councilors-at-large, Mrs. Mark A. Glaser and Mrs. Arthur J. Annis. Mrs. Harry O. Hund of San Rafael, who had come to represent the newly organized county of Marin for its president, Mrs. Robert Furlong, was made councilor for the ninth district. Three county presidents, Mrs. Robert T. Sutherland of Alameda, Mrs. H. L. Carpenter of Contra Costa and Mrs. Russel Lee of Santa Clara brought the total attendance to eighteen.

Membership and Organization Chairman, Mrs. William H. Sargent, reported the addition of three new counties since May—Siskiyou, with Mrs. Leslie J. Seeley as president; Lassen-Plumas, Mrs. F. J. Davis of Westwood, president; and Marin under the leadership of Mrs. Robert Furlong. The San Francisco County group will meet during September, when the twenty charter members who initiated the organization in May just before the annual convention will complete the plans for that county. This State organization report makes as fine a record of accomplishment during the summer interlude as could perhaps be found anywhere in the entire country.

An outline for programs and health education throughout the State, made by Mrs. John V. Barrow, shows a comprehensive grasp of the Auxiliary's purpose. Dividing her program suggestions into two classes, those for the counties with smaller membership are built about social and philanthropic projects, while plans for the larger county groups are listed under three main headings:

1. A study of current questions related to medical affairs that every doctor's wife should know, such as the value of animal experimentation, the health welfare agencies of the community, a comparison of the educational qualifications for doctors of medicine with those of chiropractors, naturopaths, etc.

2. Legislative education—an effort to keep informed on the more important bills before the State Legislature pertaining to medical and public health problems.

3. The presentation of child health and welfare education as major programs.

Several communications addressed to the State board were read by the secretary, including a letter from the secretary-treasurer of the California Medical Association, Dr. Frederick Warnshuis, outlining a series of Public Health Institutes to be held once a year in different cities throughout the State and asking the Auxiliary's help in bringing these sessions to the attention of the public through the various clubs and organizations. Another request for assistance at the State meeting of the Society for Prevention of Tuberculosis to be held in Sacramento came from its president, Dr. Harold Trimble. The board gladly pledged the full coöperation of the Auxiliary for both these projects.

Copies of the State Constitution of the Auxiliary, which the president has just had printed, were distributed at the meeting.

Mrs. Robert T. Sutherland, in reporting for Alameda County, told of their plans for a Health Institute this fall, an endeavor which promises to be a distinguished contribution to the health education of the entire community. The Civic Auditorium of Oakland has been engaged for November 4 and 5, and a two-day program of lectures, discussions, motion pictures, puppet show and many other interesting features, including evening speakers of national prominence, are planned for it. A contest in the public schools for the posters to advertise the Institute is being held, with prizes for the winners in grammar, junior, and senior high-school grades. Mrs. Sutherland and her committee have enlisted the interest and support of the Board of Education, the medical, dental and public health societies of the county, women's clubs, civic and service organizations. The Alameda Auxiliary is making the pioneer endeavor in the far West for this type of activity, and deserves great credit for their energy and skill. In the East, Pennsylvania has for several years held an annual institute with much success. When Mrs. Philip Schuyler Doane, the president, returned last year from the National convention, she brought home the suggestion that a similar project be tried here, and Alameda County seems well on the way to an achievement of which every Auxiliary member can be proud.

Reporting for San Joaquin County, who it will be remembered won the Membership Trophy last year, Mrs. F. J. Conzelmann, as district councilor, told of their plans to establish a child-guidance clinic in Stockton as the major project for this year.

At the conclusion of the business session the board members were taken to the home of Mrs. Sargent on the hills overlooking the city of Oakland, where they enjoyed a delightful hour at tea time. President Clark, with two of her daughters and other members of the Alameda Auxiliary, assisted the hostess in receiving the out-of-town members.

* * *

Recommendations from the Annual Meeting.—At the pre-convention board meeting at the Ahwahnee in May, it was moved that the following recommendations and suggestions be published as possible aids for some of the county auxiliaries.

Recommendations concerning Public Relations work made by Mrs. Barrow, state chairman.

* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Elmer Belt, chairman of the Publicity and Publications Committee, 2200 Live Oak Drive, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Belt and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editor to allocate two pages in every issue for Woman's Auxiliary notes.

1. Every county, no matter how small, should have a Public Relations chairman.

2. This chairman should acquaint herself well with the duties and possibilities of Public Relations work.

3. Make a study of the Public Relations work of the lay organizations of the community.

4. Watch the local papers for health programs and notice who sponsors them and who speaks at them. If possible attend these or have some member of your committee attend; better still, a doctor.

5. Offer your help to lay organizations with their health programs and supply able speakers from your Speakers' Bureau.

Recommendation for *Hygeia* committees made by Mrs. Frank Baxter, state chairman.

1. Place at least one subscription of *Hygeia* in every unit of the Parent-Teachers' Association.

2. The suggestion to put *Hygeia* in such places where it will reach many different classes of the public, such as beauty shops, railway stations, transpacific liners, and overland trains, is well worth consideration.

3. Regard *Hygeia* as a publication that is opened with expectation and closed with profit.

Suggestions for county auxiliaries taken from the annual report of Mrs. John V. Barrow, Los Angeles County president:

1. All officers and chairmen should have their own copy of the "Handbook for the State Auxiliaries," published by National.

2. They should learn the duties of the office and put all their ability in carrying them out.

3. Read the Auxiliary's department in each issue of CALIFORNIA AND WESTERN MEDICINE and in the American Medical Association Bulletin.

4. Make all possible contacts with the Parent-Teachers' Association and lay organizations for child-health programs.

5. Hold a health conference or institute, if possible.

6. Study legislative bills that affect scientific medicine and public health.

7. Be interested in the health problems of the community and have qualified speakers available for programs.

8. Have one large social function during the year's program.

9. Aim to keep scientific medicine before the public and thus suppress quackery.

* * *

Californians on National Committees.—Mrs. David S. Long of Missouri, the national chairman of Public Relations, has appointed our past president, Mrs. Philip Schuyler Doane, on her committee in charge of the western division, which includes the far western and southwestern states. Mrs. Mark A. Glaser continues on the National *Hygeia* Committee, under the chairmanship of Mrs. James D. Lester of Tennessee. Mrs. Frederick N. Scatena is serving her second year as director on the national board.

* * *

County Auxiliary Reports

San Diego.—The regular meeting of the Woman's Auxiliary to the San Diego Medical Society was held on September 10 at the Hotel del Coronado Beach and Tennis Club. A delightful buffet luncheon was served beside the pool.

A very interesting report was made by Mrs. R. O. Taylor, chairman of the Publications Committee. In regard to *Hygeia*, she reported that the Young Men's Christian Association, the East San Diego branch and the University branch of the Public Library, where the Auxiliary placed copies of *Hygeia* last year, were very grateful and reported to her that the magazines were widely read. The committee again sent *Hygeia* to these places, and, in addition, to the Horace Mann Junior High School, to the Neighborhood House, and to the Normal Heights of the Public Library.

When the Parent-Teachers' Association held its state meeting this summer in San Diego, *Hygeia* posters were hung and free copies of the magazine were distributed. One hundred and fifty copies of *Hygeia* and an equal number of the American Medical Association pamphlets, listing health literature, were given out.

This meeting of our Auxiliary partook of the nature of a fall reunion after the summer vacation, and the afternoon was devoted to visiting and knitting.

LUCILE NEWTON, *Secretary.*

NEVADA STATE MEDICAL ASSOCIATION

E. E. HAMER, Carson City.....President
R. O. SCHOFIELD, Boulder City.....President-Elect
C. E. SECOR, Elko.....First Vice-President
HARRY W. SAWYER, Fallon .....Second Vice-President
HORACE J. BROWN, Reno.....
.....Secretary-Treasurer and Associate Editor for Nevada

Announcement of Annual Meeting

To the Members of the Nevada State Medical Association:

The annual meeting of the Nevada State Medical Association will be held at Elko, October 25 and 26. The dates were changed from September in the hope that we can secure several essayists, who will be on their way to attend the annual meeting of the American College of Surgeons at San Francisco, which will convene on October 28. We have assurance that every effort will be made to have about two dozen eastern men attend our meeting, five of whom will read papers.

The outlook is bright for a very fine meeting, with probably the largest attendance in our history.

We would strongly advise that you begin now to make your plans to attend, and do not forget to bring the missus along to attend the Auxiliary. The poor old Auxiliary seems to be suffering from atelectasis, and if something is not done very promptly it is liable to pass into the dim and distant whence.

We hope you have been keeping posted on the propaganda for state medicine, so that you will know what to do when some layman begins to tell you how to practice medicine, and wants to pay you about $150 per month.

In the meantime, if you are doing any work for the federal relief agencies, we would suggest that you make definite agreements at the beginning of each case and hold out for not less than the Army fee schedule. You will find this is little enough, but about twice what the local lay director thinks you should have.

We hope to see you in Elko, October 25 and 26.

H. J. BROWN, *Secretary.*

Worth a Moment's Conjecture.—The witness in court is sworn to disclose "the truth" (of which he cannot be sure) "the whole truth" (which nobody knows about anything) "and nothing but the truth" (which his own emotional reactions will inevitably modify).

* * *

Man is entitled to "life" if he can avoid murderers, "to liberty" if he can obey inconsistent laws, and "to the pursuit of happiness," which involves a dusty chase.

* * *

The propagandist of "all's well with the world" has probably escaped thugs and does not need, in cowboy lingo, to "rustle for grub."

MISCELLANY

Under this department are ordinarily grouped: News Items; Letters; Special Articles; Twenty-five Years Ago column; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings

American College of Surgeons, Fairmont Hotel, San Francisco, October 28 to November 1, 1935. Howard C. Naffziger, M. D., 384 Post Street, San Francisco, Chairman.

California Medical Association, Coronado, May 25-28, 1936. Frederick C. Warnshuis, M. D., 450 Sutter Street, San Francisco, Secretary.

Nevada State Medical Association, Elko, Nevada, October 25-26, 1935. Horace J. Brown, P. O. Box 698, Reno, Secretary.

Pacific Coast Society of Obstetrics and Gynecology, Los Angeles, November 6-9, 1935. T. Floyd Bell, M. D., 400 Twenty-ninth Street, Oakland, Secretary.

Western Orthopedic Association, San Francisco, October 25-26, 1935. Merrill C. Mensor, M. D., 490 Post Street, San Francisco, Secretary.

Medical Broadcasts*

San Francisco County Medical Society.—The radio broadcast program for the San Francisco County Medical Society for the month of October is as follows

Tuesday, October 1—KJBS, 11:15 a. m. Subject: Blood-Building Foods.

Thursday, October 3—KFRC, 1 p. m. Subject: Blood-Building Foods.

Tuesday, October 8—KJBS, 11:15 a. m. Subject: Appendicitis—A Growing Menace.

Thursday, October 10—KFRC, 1 p.m. Subject: Appendicitis—A Growing Menace.

Tuesday, October 15—KJBS, 11:15 a. m. Subject: The New Deal in Appendicitis.

Thursday, October 17—KFRC, 1 p. m. Subject: The New Deal in Appendicitis.

Tuesday, October 22—KJBS, 11:15 a. m. Subject: The Family Doctor.

Thursday, October 24—KFRC, 1 p. m. Subject: The Family Doctor.

Tuesday, October 29—KJBS, 11:15 a. m. Subject: What Is a Mastoid?

Thursday, October 31—KFRC, 1 p. m. Subject: What Is a Mastoid?

* * *

Los Angeles County Medical Association.—The radio broadcast program for the Los Angeles County Medical Association for the month of October is as follows:

Tuesday, October 1—KECA, 11:15 a. m. Subject: Alcoholism 1.

Saturday, October 5—KFI, 9 a. m. Subject: Alcoholism 1.

Saturday, October 5—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 8—KECA, 11:15 a. m. Subject: Alcoholism 2.

Saturday, October 12—KFI, 9 a. m. Subject: Alcoholism 2.

Saturday, October 12—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 15—KECA, 11:15 a. m. Subject: Alcoholism 3.

Saturday, October 19—KFI, 9 a. m. Subject: Alcoholism 3.

Saturday, October 19—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 22—KECA, 11:15 a. m. Subject: Alcoholism 4.

Saturday, October 26—KFI, 9 a. m. Subject: Alcoholism 4.

Saturday, October 26—KFAC, 10:15 a. m. Subject: Your Doctor and You.

Tuesday, October 29—KECA, 11:15 a. m. Subject: Alcoholism 5.

* County societies giving medical broadcasts are requested to send information as soon as arranged (stating station, day, date and hour, and subject) to CALIFORNIA AND WESTERN MEDICINE, 450 Sutter Street, San Francisco, for inclusion in this column.

Samuel D. Gross Prize for 1935.—The Samuel D. Gross Prize for the year 1935 has been awarded to Dr. Owen H. Wangenstein, department of surgery, University of Minnesota, Minneapolis, Minnesota, for his essay, entitled "The Therapeutic Problem in Bowel Obstruction."

Information for Technicians.—Under Chapter 638, recently passed by the legislature, technicians must, after September 15, 1935, hold a technician's license issued by the State Board of Public Health. The principal exception is in laboratories conducted by physicians for use in their own practice and provided they do not receive specimens from other doctors or from patients of other doctors. A group of physicians occupying one suite of offices comes under the same exception. Not all persons in a clinical laboratory come under the classification of technician. A limited number, at least one and in some cases two, may be classed as apprentices until able to pass the examination.

The certificate of license as "clinical laboratory technician" is issued by examination covering the whole field of clinical laboratory work. The fee for the examination is $5, not returnable in case of failure, and the annual renewal fee is $1. The certificate entitles its holder to engage in any phase of clinical laboratory work, but not to direct the work of a laboratory excepting under a physician or a clinical laboratory technologist. College degrees and experience count toward the certificate, but the examination paper must reach a certain grade of excellence regardless of experience.

The individual certificates in bacteriology, serology, biochemistry, and parasitology are continued and the examination fee for these is $2 for each examination, not returnable in case of failure. The renewal fee is 50 cents for each senior certificate, payable annually. The senior certificate entitles the holder to engage unsupervised in the work covered by that certificate only. It serves to provide for a limited license in laboratories where the technician is not required to do all types of work.

Junior grade certificates are issued to applicants who make a certain grade but do not give evidence of that degree of proficiency required by the holder of a senior grade certificate. Junior certificates do not require annual renewal.

Persons who accumulate all four senior certificates may turn them in and secure in exchange the certificate as clinical laboratory technician without further examination and without fee if the certificates were secured after the passage of the law. If secured before the passage of the law, a fee of $5 is required.

Applications to take the examination must be filed two weeks in advance of the advertised date. Information regarding the date, hour, and place of examination is sent to each person who has an application on file, together with a card of admittance, several days before.

Those desiring information as to the scope of the examination should write for Bulletin No. 9. Special forms on which to apply for the examination will be sent on request.

Public Health and Nursing Examination Announced. The next examination for public health nursing certificate will be held simultaneously at San Francisco and Los Angeles on Saturday, December 21, 1935.

Completed applications must be on file in the office of the Department of Public Health, 312 State Building, San Francisco, not later than November 15, 1935.

Painted Mosquitoes.—The Public Health Service painted mosquitoes in its search for a way to prevent airplanes from bringing the disease-bearing pests into this country.

Officials disclosed that after five years of experiments, they found a method of prevention so efficient that inspectors find only about one mosquito in every ten planes entering the United States from foreign ports.

Officials sent to South America, mosquitoes sprayed with a color fluid and loaded them aboard airplanes. At each stop along the route, they would see how many mosquitoes were left aboard the plane. The planes travel from the yellow fever zones into this country in three days.

Then the search began for a non-inflammable spray that would be effective and could be used aboard airplanes. Dr. Charles Williams of New Orleans finally worked out a solution of flowers of pyrethreum mixed with light oils, which proved effective.

Noted Doctor Will Give Address Here.—San Francisco and California medical circles are preparing to welcome a world figure in tropical medicine, in the person of Dr. Hamilton Fairley, secretary of the Royal Society of Tropical Medicine in London, who is scheduled to make three addresses in this city.

Doctor Fairley is coming to the United States to address the annual meeting of the American Society of Tropical Medicine in St. Louis November 20 to 22. He will come first to San Francisco, making his first appearance before the San Francisco County Medical Society on November 13. The following day he will address the Pasteur Society and on Friday, November 15, he will address the students and staff of the University of California Medical School.

The visit of Doctor Fairley is particularly opportune at this time, as the American Society of Tropical Medicine is now endeavoring to coördinate the work of a number of medical schools and societies to deal with the tropical diseases now in this country and the threatened invasion of others. One of the principal factors in this work is the Pacific Institute of Tropical Medicine, of which Dr. A. C. Reed, professor of tropical medicine in the University of California, is the director. Doctor Reed is also a director of the American Society of Tropical Medicine. The Institute is a part of the Hooper Foundation of Medical Research of the University.

Governor Merriam Appoints Dr. Walter M. Dickie Director of the State Department of Public Health.—On September 16, Governor Merriam appointed Dr. Walter M. Dickey as secretary-director of the State Department of Public Health. The Los Angeles *Times* made the following statement:

Dr. Walter Murray Dickie of Berkeley was appointed head of the State Department of Public Health by Governor Merriam to succeed Dr. J. D. Dunshee, who resigned.

Doctor Dickie, a former resident of Los Angeles, served as director of the State Public Health Department in three prior State administrations and his selection for the post is considered as a reappointment.

Doctor Dickie will assume his new post immediately. Doctor Dunshee resigned after numerous reports of friction between him and the personnel of the department.

Doctor Dickie was born May 12, 1875, at Ottawa, Canada. He is the son of John and Louise Dickie, and came to California in 1885. He was graduated from the University of California in the class of 1898 and the University of California Medical College, class of 1901.

He is a member of the Los Angeles County Medical Society, and a fellow of the American Medical Association.

Chiropractic Test.—Under the above caption the San Francisco *Examiner* of August 9, 1935, printed:

The judge looked on calmly as one man rolled up his sleeves, another removed his collar—

Superior Judge John J. Van Nostrand's court nearly became the scene of a practical demonstration of chiropractics yesterday. Legal tactics—and the discouraging avoirdupois of an intended "subject" balked the serio-comic enactment.

Two groups of chiropractors, with the State of California as intervenor, are attempting to secure a legal definition of the rights and limits of a chiropractor's ministrations.

Philip Lovell, Los Angeles, was the chiropractor who was to perform the experiment. He sighed, however, and shook his head when a 200-pound man was selected for him to work on, stating he would need "x-rays" to analyze the subject's condition.

Lionel Browne, Deputy Attorney-General, declined to serve in the experiment.

"We're trying to find out what a chiropractor can do. I'll wait until we have the answer before I submit," Browne said.

Senator Files Objection to Committee Aid—Appointment for Health Insurance Survey Protested.—The San Francisco *Chronicle* of September 17 printed the following:

Senator Dan E. Williams of Tuolumne County today protested the appointment of Celestine Sullivan as committee secretary in a letter to Senator Edward H. Tickle, Carmel, chairman of Senate Interim Committee on Health Insurance. Senator Williams is a committee member.

The Senator said Mr. Sullivan was a State Harbor Commissioner for San Francisco and pointed out that Governor Merriam has objected to State employees serving in other State capacities.

Senator Williams also said he "openly charged Mr. Sullivan with 'lobbying'" for bank interests and "his ideas on health insurance."

COLORING REPORT CHARGED

Mr. Sullivan was described by the Senator as coloring a report on "the high cost of sickness" with his ideas during his tenure as secretary of the 1935 committee, which reported to the last legislature.

"His quite evident animosity for certain medical authorities had no place in this report," said Senator Williams. "To be sure, this report was signed by the committee, but necessarily, in our hasty perusal, its faults elicited no particular comment that a careful survey would have disclosed.

FACTUAL MATTER GOOD

"The factual matter was good and is good today but much of the remaining pages could have been dispensed with at no great loss to the report."

Referring to a Senate bill on health insurance, which was defeated, the Senator charged that the "dominant attitude of a secretary convinced that health insurance should be a compulsory measure had much to do with the failure of that measure. . . ."

One Hundred Thousand on Relief Lose Medical Aid in Los Angeles County.—On September 17 the Los Angeles *Herald-Express* printed the following item:

Approximately 100,000 county relief clients today were without medical care, due to a decision of State Emergency Relief Administrator Frank Y. McLaughlin that the legislative act covering the $24,000,000 relief bond issue does not make medical care mandatory.

Not more than 10 per cent of those who have been receiving the medical care can be taken care of by county means, Superintendent of Charities Rex Thomson said today.

As a result, county medical care will be given only in the most urgent cases, Mr. Thomson said.

Mr. McLaughlin yesterday notified Mr. Thomson that money from the $24,000,000 bond issue would not be used for medical care, despite a provision in the legislative act providing that medical care be included in the purposes for which the bond issue was voted.

Mr. Thomson countered today by stating that Mr. McLaughlin's interpretation of the act was arbitrary and unfair, but that the county care, due to lack of funds,

would have to be reduced 90 per cent until such time as Mr. McLaughlin decided to let the county have some of the state funds to finance the work.

"The act provides that the bond money shall be expended for home or direct relief, including money, food, housing, clothing, fuel, light, water, medicine, medical and other treatment, medical appliances, nursing, etc.," said Mr. Thomson, quoting from the legislative act. "It was the intention of the legislature that this money should include medical care."

The Western Orthopedic Association.—The annual meeting of the Western Orthopedic Association is to be held in San Francisco on October 25 and 26, 1935. Two days of scientific sessions will be devoted to the presentation of papers by outstanding orthopedists of the Pacific Coast combined with clinical meetings at San Francisco Hospital, Stanford Hospital, and Mount Zion Hospital. A cordial invitation is extended to all members of the profession interested in orthopedics to attend its session. For further particulars, communicate with Merrill C. Mensor, M. D., 490 Post Street, San Francisco, secretary.

LETTERS

Reply of Dr. Rodney A. Yoell to letter of Frederick L. Hoffman, LL. D., printed in "California and Western Medicine" (issue of July, 1935, page 102).

To the Editor: It is neither my desire nor intention to enter into any controversy with Mr. F. L. Hoffman, but in justice to my fellow members in the House of Delegates his letter, as published in the July number of CALIFORNIA AND WESTERN MEDICINE, page 102, merits an answer. To review his letter, point by point, would be tedious as well as fruitless, but certain of his statements bearing directly on the subject he brings to issue—namely, his testimony before the Canadian Commission—as stated by me in the House of Delegates, can be categorically challenged.

Mr. Hoffman declares that he has "probably written as much as anyone in this country on the operation and results of health insurance in European countries," etc. It is not the *quantity* but the *quality* of his lucubrations which draw fire.

He submits that he has been to Europe, but it does no harm to remark that opportunities for foreign travel and study are not his exclusive and peculiar prerogative.

Mr. Hoffman's assertion that my comments on his views "betray the same personal bias" as the Canadian report, is a charge ridiculous to the point of crudity. When he levels his lance at the Canadian Commission from this rest, the fatuous futility of the attack would seem to spring from a childishness almost naive in its conception. Why should (as he charges) an obscure California physician and five members of the Royal Commission in Canada conspire on *personal grounds* to reject his views and testimony.

Mr. Hoffman admits he has not read the Canadian report offered in evidence by me at the Los Angeles meeting of the House of Delegates. 'Tis a profound pity he has not. The effort should prove most salutary. Is it not strange, one might ask, that this self-styled authority on health insurance should have failed to acquaint himself with the published conclusions of so important a body as the Royal Commission investigating the subject, which Mr. Hoffman deems so peculiarly his own, in one of the greatest Anglo-Saxon commonwealths of the continent. It is all the more remarkable because Mr. Hoffman once deemed this Commission of sufficient importance to warrant his personal attention and advocacy even if this personal attention was at the request of the Christian Scientists.

But enough of this! The report was printed by the authority of the Legislative Assembly of the province of British Columbia in Canada. It appeared in 1932 from the press of Charles Banfield, printer to the King's Most Excellent Majesty. It bears on its cover the governmental seal of authority. British public documents are considered, as a rule, meticulously authentic. If Mr. Hoffman will read this report he will find the following statements, taken verbatim therefrom, which formed the basis of my criticism of his efforts when I spoke in the House of Delegates. Should he disagree with these statements, the difference lies between himself and the Royal Commission rather than with me.

The Commission states in its report, on page 17, Section 53, that:

The lone exception, which does not come from Europe or from any country utilizing the scheme, has been voiced by an official of the Prudential Insurance Company of America, Mr. F. L. Hoffman.

It further states in Section 54, page 17, that:

At the earnest request of the Christian Scientists, we accorded a special hearing to Mr. Hoffman, and his evidence will be found in Volume 3 of Appendix H.

Section 55, page 17, states that:

A perusal of this evidence discloses, however, that Mr. Hoffman's antagonism to the principle of State health insurance is based, not upon any authentic facts relative to the failure or success of European schemes, but rather upon a general argument in condemnation of the principle of compulsory State health insurance.

Section 56, page 17, states that:

Other expressions, however, by Mr. Hoffman are clearly valueless in the light of present-day experience, and indicate that his study of European schemes has not been brought up to date.

Section 58, page 18, states that:

Mr. Hoffman has evidently not followed the later developments of the British system, one particular feature of which has been to give the medical profession an increasing share in the administration of the scheme, and which has largely removed the major dissatisfaction formerly prevalent amongst the profession, as has been conceded by the British medical profession.

Section 59, page 18, states that:

Mr. Hoffman also says: "Health insurance in the United Kingdom has not improved the health of the wage earner as was expected. The British death rate is the same as the death rate of this country and in all probability with a larger amount of general sickness among the working people."

With Section 60, page 18, the Commission then quotes statements from Lord Lawrence of Kingsgate, head of the Royal Health Insurance Commission, which the Canadians offer in flat contradiction to the statements of Mr. Hoffman, and there are three paragraphs devoted to a contradiction to Mr. Hoffman's testimony, including an official report taken from the British Medical Association, and finally an extensive table is published which was offered by Sir George Newman, the chief medical officer of the British Ministry of Health. This table lists a great many diseases and shows that since health insurance was instituted there has been an average decrease in mortality of 39.55 per cent.

The report then summarizes Mr. Hoffman's evidence in this fashion:

Section 62, page 19:

In view of these authoritative statements, which are in direct opposition to those of Mr. Hoffman, we are disinclined to attach any practical value to his criticisms as directed against the beneficial effects of State health insurance as practiced in Europe.

It also adds:

Mr. Hoffman's criticism is mainly directed to conditions which existed more than ten years ago, and which conditions have been steadily improved upon.

And in Section 63, page 20, the Royal Commission summarizes its opinion of Mr. Hoffman's evidence.

Finally, we refer again to the evidence of Mr. Hoffman in Volume 3, Appendix H, when he was closely questioned by members of our Commission. His evidence reveals, in our view, merely general statements backed up by no reliable facts.

These statements have all been taken verbatim from the report, and I trust that the evidence submitted will show the members of the California Medical As-

sociation that it was purely on an impersonal basis that the opinions of Mr. Hoffman have been weighed and found wanting.

490 Post Street, San Francisco.

RODNEY A. YOELL, M. D.

Concerning a plan to enlist coöperation of physicians. Important!

BOARD OF MEDICAL EXAMINERS
STATE OF CALIFORNIA
420 State Office Building
Sacramento, California

September 27, 1935.

Re: W. B. Mayo Laboratories, Inc.

To the Editor:—We are wondering if any information should be published in the columns of CALIFORNIA AND WESTERN MEDICINE relative to the matter mentioned in the enclosed copy of a letter addressed to B. E. McDowell, M. D., Merced, California. . . . The matter is being reported from various parts of the State. . . .

Very truly yours,
(Signed) C. B. PINKHAM, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

420 State Office Building
Sacramento, California

September 27, 1935.

Yours of September 6, re Application, W. B. Mayo, M. D., Dr. W. B. Mayo Laboratories, Inc.
B. E. McDowell, M. D.,
201-220 Bank of America Building,
Merced, California.

Dear Doctor:—Many thanks for your letter advising us that an individual named N. B. Crittenden had been soliciting doctors to become connected with the Dr. W. B. Mayo Laboratories, Inc., Medford, Oregon. Representatives of this concern have traveled throughout the State of California endeavoring to secure signatures of doctors to an agreement,* the main feature of which seems to be the payment on the part of said doctor to the representative of the Dr. W. B. Mayo Laboratories, Inc., the sum of $200.

Our investigation department reports that such procedure will add greatly to the financial benefit of the Dr. W. B. Mayo Laboratories, Inc., but it is difficult to understand how the financial returns to the doctor will warrant such an expenditure.

Incidentally, the California medical license of W. B. Mayo, M. D., was revoked October 20, 1931, after a hearing of a complaint charging alleged illegal operation. Said license was thereafter restored, and on February 27, 1933, W. B. Mayo was placed on probation for a period of five years.

Very truly yours,
(Signed) C. B. PINKHAM, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

More concerning a company, operating under an out-of-state charter, seeking money from physicians on a lifetime contract. Warning.

A member of the Los Angeles County Medical Association has sent in a marked item from the October 3, 1935, "Bulletin" of that Association, which reads as follows:

MEMBERS ARE WARNED NOT TO SIGN MEDICINE COMPANY'S CONTRACT

A medicine company operating in Los Angeles with an out-of-state charter has been busy for some weeks, through its solicitors, among the doctors of medicine in Los Angeles County and elsewhere in the State.

Some of these solicitors are armed with letters apparently signed by doctors of medicine who recommend this promotional scheme.

The California Medical Association emphatically urges all of its members to refrain from entering into any contract with this company.

Physicians are approached by solicitors who tell them that they will be appointed to the advisory and consultation staffs of this company, or laboratory, as it is called. To join this staff, however, the physician must sign an agreement to pay a sum of several hundred dollars to the corporation.

Every member is asked to consider this phase of the agreement: The corporation agrees that it will refer to him any lay person in his community who sends an inquiry in relative to the medicine which they manufacture. The physician is also promised a commission on sales in his community.

The contract, which is presented to the physician for a signature, contains a perinent clause which states that the agreement is for life and cannot be revoked!

It is understood that these laboratories intend to use the money which they receive from physicians to promote a nation-wide advertising campaign, which campaign would be designed to interest the lay public in their medication. It is hoped that some two million dollars would be so raised.

To interest the physician, this laboratory states that such an advertising campaign will bring many inquiries from laymen as to their ailments; the laboratory then makes this proposition to the doctor: That any inquiries coming to the laboratory from laymen in the doctor's community will be referred to the doctor for treatment.

This phase of the contract is being investigated by the Board of Medical Examiners, possibly because they view it as a wholesale attempt at capping.

Members who have been approached by solicitors for this company, when asked what the medicine was, stated that it was a comparatively simple alkaline compound designed for the treatment of stomach conditions. When asked if it was a secret preparation they said that it was not; that it was a simple compound similar to prescriptions they had often written.

If it be a secret formula, the Code of Ethics is very specific: "It is equally unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way."

Again we may quote from the Code of Ethics on advertising: "Solicitation of patients by physicians as individuals, or collectively in groups, by whatsoever name these may be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional."

It would seem unethical, therefore, for any physician to accept an offer from a medicine company, which offer includes the referring of patients upon the proviso that such a doctor become a member, for a price, of that company's advisory and consultation staff.

The Council of the California Medical Association, after a study of the contract of this company, has expressed its disfavor and recommends that members do not support this form of exploitation.

* Copy of Agreement is printed on page 319.

Concerning article on "Some Facts About Present-Day Medical Student Trends," printed in the September issue, on page 180.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Chicago, September 25, 1935.

To the Editor:—Thank you for your note of the 14th. I am delighted that notice is being taken of the studies we have been making for so many years. The information seems to be appreciated and wanted. No one else has made similar studies.

I have called the attention of our officers to your write-up. I am sure that they, too, will appreciate it.

With kindest regards, I am

Sincerely yours,
FRED C. ZAPFFE, *Secretary.*

P. S.—It would be well if the medical profession as a whole would take more interest in medical education. Unfortunately, after a man has graduated, he seems to have finished with medical education and promptly forgets all about it. Perhaps if he remembered it some of our economic problems might be solved.

5 South Wabash Avenue.

Why do not medical societies have at least one paper on medical education on their annual programs? Why? F. C. Z.

Concerning an "X-Ray School Granting Diplomas."

The editor has received a copy of the following letters:

August 24, 1935.

Re: California School of X-Ray,
6331 Hollywood Boulevard, Los Angeles.

Secretary of State,
State Capitol,
Sacramento, California.

Dear Sir:—We would appreciate your advising us whether the records of your office show incorporation of the "California School of X-Ray," reported to have started in 1925 and giving a four months' day course and evening course of six months, thereafter issuing diplomas signed W. B. Carr, M. D., Medical Supervisor; Augustus H. Galvin, M. D., Anatomy; Walter W. Mosher, Assistant Director; Walter D. Finney, D. D. S., Oral Diagnosis; Sydney R. Broadbent, Superintendent of Clinic. According to a report of our investigation department, none of the individuals herein mentioned as signing the diplomas are ever in attendance at the school, which is conducted by S. C. Maranville, owner, director, and entire faculty.

If this institution is of record, please give us the filing date and number, list of incorporators, purposes, place of business, etc.

420 State Office Building,
Sacramento, California.

Very truly yours,
C. B. PINKHAM, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

* * *

August 29, 1935.

Re: California School of X-Ray.

Albert Carter, Special Agent,
Board of Medical Examiners,
906 State Building,
217 West First Street,
Los Angeles, California.

Dear Mr. Carter:—Your letter of August 16, 1935, to the Los Angeles Better Business Bureau referred to the "California School of X-Ray" operated by S. C. Maranville at 6331 Hollywood Boulevard, Los Angeles, which you stated was issuing diplomas.

Under date of August 26, 1935, we were informed by the office of the Secretary of State that there is no record of a corporation by the name of the "California School of X-Ray." Hence, we wonder how this organization can legally issue diplomas.

We are also much interested in your statement that although said diplomas are signed by W. B. Carr, M. D., Augustus H. Galvin, M. D., Walter W. Mosher, Walter D. Finney, D. D. S., and Sydney R. Broadbent, D. O., none of these individuals, according to your report, is ever in attendance at the school, Maranville being the entire faculty.

Very truly yours,
C. B. PINKHAM, M. D.,
Secretary-Treasurer, California State Board of Medical Examiners.

Concerning the articles on "The Coroner's System," printed in this issue (pages 274 and 275).

Evanston, Illinois,
August 31, 1935.

To the Editor:—Yours of the twentieth has been referred to me, as was your previous letter of July 16, to which I replied.

I was very glad to have the opportunity to read the proof of Doctor Carr's article. I have prepared and enclose herewith some comment on the article. I hope you will not find it too lengthy. I felt that some of Doctor Carr's inferences required rather detailed discussion.

I have sent one copy of the proof to Doctor Ludvig Hektoen, president of the board of governors of the Institute, for three years chairman of the National Research Council's committee on medicolegal problems during the period of its activity, and the man, who, more than anyone else, has directed attention to the problems of legal medicine. I have urged him to make some additional comment. Whether he will do so I have not yet heard; he is a busy man.

If any reprints are to be made of Doctor Carr's article together with such comment as may be published, I would like to order one hundred copies. If no reprints are to be made, I would like to have for my medicolegal files a copy of the JOURNAL in which the material appears. . . .

Trusting that you will not find my discussion of Doctor Carr's article too prolix for your JOURNAL, I am,

Sincerely yours,
OSCAR T. SCHULTZ, M. D.
St. Francis Hospital.

P. S.—Since writing the above, I have learned that Doctor Hektoen is in Europe and is not expected back until October. I would suggest that Doctor Carr's paper be not held any longer, since Doctor Hektoen would probably have little to add.

SPECIAL ARTICLES

HOW GRIEVANCES ARE DEALT WITH UNDER THE ENGLISH HEALTH INSURANCE SCHEME*

By G. F. MCCLEARY, M.D.†

There are 16,071,000 men and women in England and Wales insured under the national health insurance scheme, and there are 16,500 insurance doctors. The insured persons, having paid their contributions to the cost of the scheme, are entitled to receive proper medical treatment; the insurance doctors by virtue of their agreements with the local insurance committees are under obligation to give it;[1] and the insurance committees and the Ministry of Health are responsible for ensuring that the doctors' obligations are fulfilled. Where medical services are provided on so enormous a scale, it is inevitable that cases will occasionally arise in which an insured patient considers, rightly or wrongly, that he has not received proper treatment from his insurance doctor; and it is necessary that a procedure should be devised by which such grievances shall be dealt with equitably, expeditiously, and economically.

In some European countries the doctors' obligation to give proper and necessary medical services is enforced by the insurance authorities' selecting the insurance doctors and making them responsible to superior officers for the quality of their work. Failure to do good work may result in the termination of the doctor's appointment. Under the English health insurance scheme there is no selection of doctors by the insurance authorities. Any doctor,[2] however careless,

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* Reprinted from August 29 issue of the *New England Journal of Medicine.* See note in California Medical Association department, on page 302.

† McCleary, G. F.: Medical Officer of Health, Battersea, Hampstead, Bedfordshire. For record and address of author see *This Week's Issue,* page 432.

1 An insurance doctor's obligation in this respect is expressed in his agreement with the Insurance Committee in the following terms: "The treatment which a practitioner is required to give to his patients comprises all proper and necessary medical services other than those involving the application of special skill and experience of a degree or kind which general practitioners as a class cannot reasonably be expected to possess." Treatment in respect of a confinement is, however, expressly excluded.

2 Except a doctor who has been removed from the panel by the Minister of Health. Removal is a rare event.

intemperate and incompetent he may be, has the right to join the local panel of insurance doctors, and he has no superior officer to supervise his work. Some safeguard has been provided by giving the persons insured under the scheme the right, which private patients have, to choose, and change, their doctors; a doctor who acquires a reputation for bad work will sooner or later see his list of patients grow smaller and the lists of his competitors larger by the transfer of patients from his list to theirs. But meanwhile some patients may have been seriously damaged; and from the first it was recognized that additional means would have to be provided to secure that insured patients should receive proper treatment. For the great majority of insurance doctors such means are not needed; their professional conscience is sufficiently developed to keep them up to the mark. But among over sixteen thousand doctors it would be unsafe to assume that all may be relied upon to give unfailing attention; and it was generally agreed that it would be necessary to adopt some method for enabling insured patients to bring forward their grievances for adjudication. At the inception of the scheme there were doctors who considered that grievances should be heard in law courts, but by most this was regarded as undesirable. Legal proceedings are expensive; a doctor who has successfully contested an unfounded complaint may be unable to obtain costs from the complainant; and the publicity of a legal action does no good to a doctor's practice. It was therefore agreed to set up in each area a special committee to deal with grievances.

THE GRIEVANCE COMMITTEE

Each insurance committee appoints a medical service subcommittee specially constituted to hear complaints against insurance doctors. The subcommittee consists of an equal number, not less than three or more than five, of local medical practitioners and of representatives of insured persons, with a neutral chairman. The subcommittee's function is to investigate the complaint, find the facts and report them to the Insurance Committee, who on the facts so found (which, if no appeal is made, must be accepted as conclusive) decide what action should be taken. Either party may appeal against the decision to the Minister of Health.

The procedure for dealing with grievances will be more readily apprehended if we take an imaginary case and follow it through its various stages. It is similar to cases that have actually occurred.

THE CASE OF JAMES THOMPSON

James Thompson, who is twenty-six years of age, is an insured person and is employed in an iron foundry at a weekly wage of $15. Two years ago he chose Doctor Smith as his insurance doctor and was on his list when the case began. It began when Mr. Thompson awoke about two o'clock one morning with severe abdominal pain, which Mrs. Thompson vainly attempted to relieve with hot applications. Mr. Thompson was reluctant to send for Doctor Smith, who lived about half a mile away, but after enduring the pain for an hour he felt so ill that he asked his brother, a boy of fifteen who lived in the same house, to go to Doctor Smith and ask him to call as soon as possible. The boy arrived at Doctor Smith's house at 3:15 a. m., rang the night bell, and in answer to the doctor's inquiry through the speaking tube, said his brother had been awakened with a "terrible pain in his stomach," and that he felt very ill indeed and wanted the doctor to come around at once. He added that he had brought his brother's medical card with him to show that he was one of the doctor's insured patients. On being asked whether the patient had been sick or had diarrhea he said he did not know, but he was sure that his brother was "terribly ill." The doctor came downstairs, and made up a bottle of medicine, which he gave to the boy, saying that the patient should take a dose at once and another every two hours if still in pain and that he would call after breakfast. Mr. Thompson was greatly disappointed at not seeing the doctor, but he took the medicine, which, since it contained a substantial quantity of opium, relieved the pain considerably. About 11:45 a. m. the doctor called, found that Mr. Thompson was suffering from acute appendicitis and advised immediate removal to the local hospital, where an operation was at once performed by a surgeon on the hospital staff, the case being urgent.

Mr. Thompson made but a slow recovery, which he attributed to the failure of Doctor Smith to visit him when requested and the consequent delay before the operation could be performed. On leaving the hospital he removed his name from Doctor Smith's list to that of another doctor, and lodged a complaint against Doctor Smith with the Insurance Committee. A copy of the complaint was sent to Doctor Smith and the case referred to the Medical Service Subcommittee.

The subcommittee may dispense with a hearing if they deem the complaint frivolous; in this case they decided that a hearing was necessary, and Doctor Smith and Mr. Thompson were asked to attend their next meeting. At this meeting, which like all meetings of the subcommittee, was held in private, neither party being allowed to be represented by a lawyer or other paid advocate, Mr. Thompson, who had received a copy of Doctor Smith's answer to his complaint, gave his account of his illness and his brother told what happened when he called on Doctor Smith. The facts so stated were not disputed by Doctor Smith, except that, according to his recollection, he was called at 4:30 a. m. and not at 3:15 a. m. He said that the messenger's account of the patient's symptoms led him to think that the case was one of ordinary colic; that it was a most inclement night; and that he had a bad cold and was tired out by a hard day's work. When asked why if he felt unable to go out he did not arrange for a deputy to take the call, he said that the idea did not occur to him. He did not think his short delay in visiting the patient had materially affected the progress of the case. He was closely questioned by the doctors on the subcommittee, who seemed less impressed than their lay colleagues by the reasons he gave for his failure to visit the patient when requested.

After hearing the evidence the subcommittee prepared a report to the Insurance Committee, in which they found the facts as stated above,[3] inferred from them that Doctor Smith had failed to render proper service to his patient, and recommended that a sum of twenty pounds ($100) should be withheld from his remuneration. The Insurance Committee adopted the report without discussion and sent a copy to the Minister of Health.

DR. SMITH'S APPEAL

Doctor Smith exercised his right to appeal to the Minister of Health against the decision of the Insurance Committee on the report of their Medical Service Subcommittee. He thought the decision was unwarranted by the facts of the case. In accordance with the regulations governing these cases,[4] the Minister appointed an appeal tribunal consisting of three members: a medical officer and a legal officer of the Ministry of Health, and a medical practitioner selected from a panel of insurance doctors nominated by the British Medical Association. At the appeal both Doctor Smith and the Insurance Committee were represented by competent lawyers, and the witnesses, who gave evidence on oath, were subjected to searching cross-examination. The case concluded, the tribunal drew up a report to the Minister in which they stated that they saw no reason to dissent from the decision of the Insurance Committee.

The Regulations provide that in any case in which an insurance doctor has been found by the Insurance Committee (or by the appeal tribunal in a case in which an appeal has been made) to have been negligent in his treatment of the patient, the Minister shall, before arriving at a decision on the case, refer it to

[3] The subcommittee's findings of fact must be accepted by the Insurance Committee as conclusive.

[4] The Medical Benefit Consolidated Regulations, 1928.

an advisory committee, consisting of the chief medical officer of the Ministry of Health, two other medical officers of the Ministry, and three doctors selected from the panel of insurance doctors nominated by the British Medical Association to which reference has already been made, and shall consider their report on the case. Our imaginary case, which we have now traced to its final stage, would be so referred, and from what has happened in similar cases that have actually occurred it is unlikely that the decision of the Medical Service Subcommittee would be modified.

THE WITHHOLDING OF REMUNERATION

It will be noted that in this case the Insurance Committee, adopting the report of their Medical Service Subcommittee, recommended, with the concurrence of the appeal tribunal, that a sum of twenty pounds should be withheld from Doctor Smith's remuneration. In a case in which money is withheld, the Minister deducts the sum from the moneys paid by him to the Insurance Committee for providing medical services, and the committee deduct that sum from the next payment made to the doctor. During 1933, remuneration was withheld from eight insurance doctors who had been negligent in the treatment of their insured patients.

REMOVAL FROM THE PANEL

The most severe action that can be taken against an insurance doctor under the disciplinary procedure of the health insurance scheme is removal from the medical list, or "panel," as it is colloquially termed. This action may be taken by the Minister of Health if he is satisfied that the doctor's continuance on the panel would be "prejudicial to the efficiency of the medical service of the insured." A case of removal usually originates in a representation made by an insurance committee to the Minister of Health that the continuance of a certain doctor on the panel would be prejudicial to the medical service; and on receiving such a representation the Minister must appoint an inquiry committee, consisting of a lawyer (barrister or solicitor) in actual practice and two doctors. The committee hear the allegations made against the doctor and his reply; the witnesses give evidence on oath, and the parties are legally represented. The committee do not decide the question of removing the doctor from the panel; their business is to report to the Minister, stating the facts that appear to them to be established by the evidence and the inferences of fact which, in their opinion, may properly be drawn from the facts so established. The decision to remove or not to remove a doctor from the panel rests with the Minister, but before deciding he must refer the Inquiry Committee's report to the Advisory Committee mentioned above and must take their recommendations into consideration.

Very few doctors have been removed from the panel. In 1933 there was no case in which the question of removal was raised.

Complaints against insurance pharmacists are dealt with by a similar procedure, the complaints being heard by committees on which pharmacists are represented. There is, however, no advisory committee to deal with cases in which pharmacists are concerned.

It will be noted that in the procedure of the English health insurance scheme for the settlement of grievances the medical profession takes a highly important part. At every stage in the proceedings the medical aspects of the case are adequately brought to the consideration of the authorities responsible for decisions, and the medical members of the various tribunals are nearly all insurance practitioners familiar with the conditions of insurance practice. The procedure was not devised by the Government and imposed on the doctors; it is the result of many conferences between the Government and the accredited representatives of the medical profession. It has been modified from time to time, chiefly by increasing the disciplinary responsibilities of the profession, and after twenty-two years' experience it is generally regarded as an equitable, effective, and satisfactory method of dealing with grievances.

CONTRACT OF THE OUT-OF-STATE COMPANY

Referred to in Letters (see page 316, first column)

AGREEMENT

This Agreement made and entered into this ..... day of ....., 1935, at Medford, Oregon, by and between Dr. ..... Laboratories, Inc., an Oregon Corporation, hereinafter referred to as first party and ....., city ....., state ....., hereinafter referred to as second party,

WITNESSETH:

THAT WHEREAS, first party is engaged in the business of distributing certain pharmaceutical products and in connection therewith intends to appoint and retain a number of consultant physicians, and

WHEREAS, second party is a physician licensed to practice medicine in the state of ....., and is desirous of being appointed by first party as one of its consultant physicians within the territory where said second party is licensed to practice,

NOW, THEREFORE, in consideration of the promises and the mutual agreements hereinafter contained, it is agreed by and between the parties hereto as follows, to wit:

First: First party herewith retains and appoints second party as its consultant medical advisor within the territory wherein second party is now practicing.

Second: Second party agrees that he will act as consultant and medical advisor to first party within the territory where he is now practicing and will hold himself ready and available to see, examine, consult with and advise patients that may be referred to him by first party upon the specific agreement, however, that payment for such special services shall be made to said second party by the patients themselves, and first party shall not be liable nor responsible therefor. First party, however, shall have the privilege of referring to second party any person making inquiry of first party for medical treatment within the territory wherein second party is now practicing.

Third: Second party agrees to serve first party as its consultant and medical advisor within the prescribed territory and to render said first party such counsel and advice in medical matters as first party shall require of second party and as compensation for such services to second party, first party agrees that out of the gross receipts from the total sales of its products, first party shall cause to be set aside into a special fund for such compensation a sum equal to not more nor less than five per cent (5%) of all moneys obtained through the total sale and distribution of its products. This compensation fund shall be equally and ratably prorated and disbursed to all of the consultant physicians which first party shall appoint, and first party shall have the privilege of limiting the number of consultants to be appointed within its own discretion. Said disbursements to be made semi-annually on January 1 and July 1 of each and every year beginning January 1, 1936.

Fourth: First party herewith acknowledges receipt from second party of the sum of Two Hundred Dollars ($200) in full payment for listing second party's name as a consultant and advisory physician upon all lists of consultant physicians prepared, published or distributed by first party among the users of its products during the life of this agreement, and first party agrees that all such lists so prepared and distributed among the users of its products shall include the name of second party, until said second party shall request the exclusion of his name from such list. Before distributing such list, the proof shall be submitted to second party for his approval.

Fifth: All communications to first party under this contract shall be addressed to its Home Office at ....., Oregon.

Sixth: It is agreed that this contract shall be binding upon both parties as long as first party shall remain in business and so long as said second party shall continue the practice of medicine. Should said first party sell or otherwise dispose of said business, the obligations hereunder shall be binding upon and assumed by any successor of first party. In the event of the death of said second party, all benefits accruing to said second party shall pass to his heirs or assigns.

Seventh: No person or agent has any authority to make any representations other than those contained within this agreement, and second party acknowledges and agrees that in executing this agreement he has not relied upon any representations other than those contained within this agreement, and that this is the entire agreement of the parties. This agreement is not binding until received by first party and accepted by it.

In Witness Whereof, said ..... Laboratories, Inc., has caused this Instrument to be executed by its duly authorized officers and the seal of the corporation to be affixed thereto, and second party has affixed his signature thereto the day and year first above written.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. VIII, No. 10, October, 1910

From Some Editorial Notes:

Please, please, *please,* read the editorial notes in this issue which refer to advertising and advertisers—and not only read them, but also think about them—and then act. It is just as important for you to regard with serious interest this matter of advertising as it is for you to consider any other matter connected with your *Journal.* And just remember, please, that it is your *Journal.*

. . . You cannot get along without coöperation; get busy and coöperate; help the Advertising Committee; help your own *Journal*; help yourself to a little information; boost! It does not take much time, once a month, to look through the *Journal* and write to one or two advertisers; do it. You have done it before, for we have had other reports from advertisers; do it again; keep on doing it; get the habit and then do not lose it; let the advertisers know that you are alive and also that they are.

* * *

A Word to Our Advertisers.—Commenting upon our request to our members to ask all detail men and agents if their house advertises in the *Journal,* and if not, why not, one of our advertisers makes an excellent suggestion in a letter recently received.

* * *

Personal Mention.—When the *Journal* was started, a question of policy arose and received considerable discussion by the Publication Committee: Should a column or more of personal items be published each month? "Doctor Doe has gone to Europe; Doctor Roe has returned; Doctor Jones has visited the South; Doctor Brown of Los Angeles has been staying in San Francisco"—and that sort of thing. It was then decided not to publish a department of this sort. Several times since then the question has been raised, and each time it has been similarly decided. It was reasoned that if the *Journal* published an item to the effect that Doctor Doe had gone to Europe and did not note the fact that Doctor Roe—also a member—had likewise gone to the same place, Doctor Roe might feel slighted and feel a certain amount of resentment against the Society. Obviously, it would be practically impossible to secure reliable information of the movements of every member of the Society, and thus a good many members would, from time to time, be slighted and an injury would result to the Society that would be more serious than the omission of all personal items. . . .

* * *

Railway Surgeons.—The eighth annual meeting of the Pacific Association of Railway Surgeons, which was held in San Francisco toward the end of August, was a very successful one in every way. . . . The officers elected for the coming year are as follows: President, Dr. O. D. Hamlin, Oakland; first vice-president, Dr. Wallace I. Terry, San Francisco; second vice-president, Dr. Robert T. Legge, McCloud; treasurer, Dr. E. M. Keys, Alameda; and secretary, Dr. G. R. Carson. . . .

From an article on "Indications and Contraindications for the Use of Spinal Anesthesia" by Asa W. Collins, M. D., San Francisco.

After careful review of the literature on spinal anesthesia published in the foreign as well as our Ameri-

* This column strives to mirror the work and aims of colleagues who bore the brunt of Association work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

(Continued in front advertising section, page 20)

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA*

By CHARLES B. PINKHAM, M.D.
Secretary-Treasurer

News

Correction.—In the August, 1934, issue, on advertising page 18, a newspaper clipping was printed concerning Dr. LeRoy Schultz of Glendale. The clipping stated that Doctor Schultz had been arrested on a charge of conspiracy to harbor a criminal.

Our attention has now been called to the fact that Doctor Schultz was acquitted of the charge, and we print the following news item of date of March 5, 1935, which has been sent to us:

Dr. LeRoy Schultz, a Glendale physician, and four other defendants were acquitted in Judge William C. Doran's superior court of charges of conspiracy to harbor a criminal.

The district attorney's office submitted to the judge a transcript of the preliminary examination of the defendants. No other testimony was taken in the trial. The verdict of acquittal was rendered when the case was called on March 5.

The other defendants were William H. Zundellowitz, Mrs. Susie Zundellowitz, Charles Gross, and Mrs. Eleanor Gallup.

The five were charged with conspiring to harbor Flora M. Carter and H. A. Reese, who had been convicted of felonies and hid from officers while out on bail. Mrs. Carter and Reese were subpoenaed for the trial from San Quentin, where they are serving sentences.

"Ninety-seven physicians and surgeons, led scholastically by Arthur L. Schultz of Ontario, California, and one chiropodist, have successfully passed the State Board of Medical Examiners, it was announced today. Schultz, a graduate of the University of Southern California, School of Medicine, received 89 7/9 per cent. . . . The lone chiropody applicant was Robert James Riddell, Glendale. . . ." (San Francisco *Call-Bulletin,* September 10, 1935.)

"Cod and halibut-liver oils are medicines. So today ruled Attorney General U. S. Webb in an opinion handed down at the request of the California State Board of Pharmacy. The ruling was requested to safeguard the public health by maintaining the medical status of the oils and requiring that they be sold only by pharmacists qualified to determine their purity and quality in keeping with the standards established by the United States Pharmacopeia. The opinion makes them subject to taxation under the Retail Sales Tax Act." (San Francisco *Call-Bulletin,* September 9, 1935.)

"Faced with arrest on a forgery charge in San Francisco, Dr. Alton B. Mortensen, 37-year-old president and manager of a Hollywood medical laboratory, and prominent in Las Vegas from 1929 to 1931, chose death by one of the most deadly poisons known Thursday night, according to word received here today. . . . Mortensen came to Las Vegas from Salt Lake City in 1929 as the representative of an insurance company. . . . Later he joined Dr. F. M. Ferguson in the formation of a health insurance company. . . . This venture proved unsuccessful. . . He founded the Nes-Netrom Medical Laboratory in Hollywood. . . . The nature of the charges against him were rather vague, according to press reports, which stated that a Mrs. Mary A. Russell of that city had signed a complaint charging the doctor with forgery after he assertedly obtained $3,000 from her as an investment in a hospital association. The dispatches said he signed the name of Dr. F. N. Fergensen to a promissory note. Police records in Los Angeles show that Doctor Mortensen was arrested in San Francisco in 1932 on a

* The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6.

(Continued in front advertising section, page 22)